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CONTENTS

	PAGE
Editorial Notes	409
A Great Railway Hotelier	411
Signalling Single Line Stations	412
Summer Train Services	413
Letters to the Editor	414
The Scrap Heap	416
Overseas Railway Affairs	417
"Six-a-Side" Compartment Stock	418
Electric Traction Section	420
Personal	423
Transport Services and the War	425
Stock Market and Table	436

DIESEL RAILWAY TRACTION SUPPLEMENT

The May issue of THE RAILWAY GAZETTE *Supplement, illustrating and describing developments in Diesel Railway Traction, will be ready on May* 1, *price* 1*s.*

GOODS FOR EXPORT

The fact that goods made of raw materials in short supply owing to war conditions are advertised in this paper should not be taken as indicating that they are available for export

NOTICE TO SUBSCRIBERS

Consequent on paper rationing, new subscribers in Great Britain cannot be accepted until further notice. Any applications will be put on a waiting list, and will be dealt with in rotation in replacement of subscribers who do not renew their subscriptions. Orders for overseas destinations can now be accepted

POSTING. "THE RAILWAY GAZETTE" OVERSEAS

We would remind our readers that there are many overseas countries to which it is not permissible for private individuals to send printed journals and newspapers. THE RAILWAY GAZETTE *possesses the necessary permit and facilities for such dispatch.*

We would emphasise that copies addressed to places in Great Britain should not be re-directed to places overseas

TO CALLERS AND TELEPHONERS

Until further notice our office hours are: Mondays to Fridays 9.30 a.m. till 5.30 p.m.

The office is closed on Saturdays

ANSWERS TO ENQUIRIES

By reason of staff shortage due to enlistment, we regret that it is no longer possible for us to answer enquiries involving research, or to supply dates when articles appeared in back numbers, either by telephone or by letter

ERRORS, PAPER, AND PRINTING

Owing to shortage of staff and altered printing arrangements due to the war, and less time available for proof reading, we ask our readers' indulgence for typographical and other errors they may observe from time to time, also for poorer paper and printing compared with pre-war standards

Mr. Bevin on Controls and Nationalisation

MR. ERNEST BEVIN made it clear recently, when addressing the Mansion House Association on Transport, that he was still wedded to the policy of nationalisation of major industries, but when speaking at the annual luncheon of the British Plastics Federation last week, he said he would not be a party to using wartime controls as an indirect means of achieving a political objective. If an industry was to be socialised or nationalised, the public should be told, and it should be left to the electorate to decide whether it supported the plan. Although he strongly condemned attacks in the press on controls he agreed that if he sought popularity he could go to the House of Commons and say: "all these controls are gone." Apparently, therefore, he is aware that the majority of the members of the House of Commons, many of whom have some knowledge of the needs of trade and industry, is opposed to continuance of controls longer than is necessary for the prosecution of the war. Mr. Bevin appealed to industrialists "to make their voices heard"—presumably in favour of a continuation of controls. A good many industrialists have endeavoured to make known their views on this subject—a study of reports of speeches by chairmen at company meetings might enlighten the Minister of Labour as to their attitude, which in general is that the sooner wartime controls can be relaxed and finally abolished, the better for British trade and industry.

Sir Montague Eddy Returning to Argentina

Sir Montague Eddy is returning to Argentina, where it is expected that he will resume negotiations with the Argentine authorities on the future of the British-owned railways. It will be recalled that during his previous visit about a year ago, he was accompanied by Mr. H. C. Drayton, and Lord Forres, and succeeded in negotiating an agreement with the Argentine Government, which was implemented by a Decree issued on October 30 last. This provided for an extension of tariff increases and uniformity of tariffs between the State and company-owned railways and the consolidation of tariffs until the end of 1946. A proposal which had been made to the Argentine authorities that the administration and working of the companies should be fused, was left over for further study and discussion. Since that time Argentine railway affairs have continued to be beset by problems, and there can be no doubt that Sir Montague Eddy will find much to attract his attention when he arrives in Buenos Aires. At the end of next year the Mitre law is due to expire, and it is becoming relatively urgent that some indication should be given as to the future policy of the Government in the light of that event.

Sir William Stanier, Hon.M.I.Mech.E.

On Friday, April 20, we had the pleasure of witnessing the ceremony at the Institution of Mechanical Engineers, when Sir William Stanier, who was President in 1941 and has since served for three years as a Past-President on the Council, was received into honorary membership. Dr. H. L. Guy, F.R.S., the Secretary of the Institution, read the citation, reminding the audience that the newly-elected honorary member began his railway training whilst the broad gauge was still in existence. After outlining Sir William's early career on the G.W.R., Dr. Guy passed to the year 1932 when, as he said, "William Stanier passed through a metamorphosis, as a result of which the colour of his products changed from green to the L.M.S.R. red on his translation from the long-stabilised G.W.R. to become Chief Mechanical Engineer of the still nascent L.M.S.R. combination. Under his direction the mechanical engineering side of that great fusion soon achieved stability and form." Details were then given of his work for road and railway transport in India; for the Railway Executive Committee; for the Ministry of Production and as adviser to other Government Departments; and finally for the Institution, which he joined as an associate member 44 years ago. After the citation, Professor Andrew Robertson, the President, rose, and taking Sir William Stanier by the hand, received him into honorary membership with the words, "As President of the Institution of Mechanical Engineers, founded in the year 1847 for the advancement of the science and practice of mechanical engineering and in the name of its members, I welcome you, an honorary member." Amidst applause Sir William then signed the beautifully-bound book containing the signatures of the honorary members of the Institution.

Railway Equipment for Brazil

Although large orders for railway equipment have been placed recently in the United States and in the United Kingdom by the Brazilian Government, the Brazilian Minister of Transport has stated that his country needs to acquire no fewer than 1,000 locomotives and 20,000 goods wagons in the next five years. Urgently-needed supplies are being purchased through a credit established

by a Decree Law signed by the President of Brazil totalling 391,000,000 cruzeiros, or some $19,557,000. This is being distributed as follows:—For the purchase of 50 locomotives (40 of the 4-8-4 type and 10 of the 2-6-6-2 type) f.o.b. New York, $4,432,000; ocean freight and insurance and local erection of these locomotives, $625,000; for the purchase of materials for building 2,900 metre-gauge goods wagons, c.i.f. Rio de Janeiro, $7,250,000; and local assembling in Brazil of these wagons, $7,250,000. All this equipment has been ordered in the United States and will be distributed by the National Railway Department of Brazil to cover the most pressing needs of the railways under its jurisdiction.

Hotel Industry and Catering Wages Commission

In our issue of April 13 we referred to a letter published in *The Times* recently from Mr. Stanley Adams, Chairman of Thos. Cook & Son Ltd., dealing with the report by the Catering Wages Commission to the Ministry of Labour. Mr. Adams commended the Commission on the way in which it had envisaged a method of self-help to resuscitate and help a sorely afflicted industry. Mr. H. C. Clarke, Acting Secretary of the Hotels & Restaurants Association, has replied to Mr. Adams, pointing out that his views on the self-help scheme are in direct opposition to those of Mr. Clarke's Association, and that if there is to be a self-help tax for the catering industry, then a similar burden should be borne by all others which derive benefit from tourists, including travel agencies. Mr. Clarke also points out that the powers of the proposed new statutory corporation, as affecting the hotel industry, are not to be confined to finance. Other kinds of control are envisaged which in practice may be found to be disagreeable and duplicate existing machinery. The rest of the report the Hotels & Restaurants Association considers to be valuable and constructive. Mr. Clarke says his association would feel reluctant, as a body representing hotels, to express views on legislative proposals which may concern principally the travel agency business; it is because the subject of the proposed corporation is primarily one for the hotel industry that it is making known its views. Sir Francis Towle, in *The Times* of April 20, pointed out that in addition to a "sleeper" tax, which the hotel will collect, there will be an annual contribution from the hotel itself.

Overseas Railway Traffics

The spurt in Argentine rail prices caused by Argentina's declaration of war on the Axis powers, which had resulted in rises of as much as four points in some debenture issues, has been followed by a considerable reaction. This has been due to the published provisions of the proposed General Transport Bill, which might have a most harmful effect on the railway finances in unduly favouring road transport. News that Sir Montague Eddy is shortly to visit Argentina has now had some steadying power. Latest traffics of Argentine railways, as shown by the accompanying table, have been good, notwithstanding the small advance for the week on the Buenos Ayres Western. The Argentine North Eastern return for the past week shows an improvement of £7,480, and that of the Entre Rios is £8,093 up. An exceptionally large decrease of £17,614 for the past week is recorded by the Leopoldina which now has an aggregate increase of only £525. At the same time Great Western of Brazil receipts continue to expand and the aggregate improvement is now £53,000. Nitrate Railways' earnings for the 15 weeks to April 15 show a fall of £17,139.

	No. of week	Weekly traffics	Inc. or dec.	Aggregate traffic	Inc. or dec.
		£	£	£	£
Buenos Ayres & Pacific*	41st	167,334	+23,067	5,966,934	+1,057,200
Buenos Ayres Great Southern* ...	41st	232,334	+56,067	9,209,200	+872,533
Buenos Ayres Western*	41st	77,734	+667	3,104,134	+501,867
Central Argentine*	41st	193,886	+ 6,870	7,935,613	+950,350
Canadian Pacific	15th	1,193,200	−43,800	17,065,800	−299,600

* Pesos converted at 15 to £

The recent heavy traffic decreases in receipts of the United Railways of the Havana have been due to a prolonged drought.

Uruguay Railway Inquiry

According to reports from Montevideo, Mr. H. H. Grindley, General Manager of the Central Uruguay Railway, has issued a statement that on April 9 the railway notified the Government that the proprietors could not continue to render services essential to the country without any return on their capital, and that to serve interest on two series of debentures and to provide at least a modicum of a dividend for the ordinary stock, it would be necessary to increase livestock and parcels rate by 15 per cent., goods rates by 30 per cent., and passenger rates by 7½ per cent., unless the Government could propose some mutually satisfactory alternative. On April 19 the Government of Uruguay issued a Decree, appointing an honorary commission to study and report on four possible courses of action. These are: an increase of tariffs as indicated by the company; the purchase of the railways by the State; the formation of a mixed company for joint ownership; and the re-establishment by the State of guarantees in return for intervention in tariffs. The Central Uruguay Railway Co. of Montevideo Ltd. operates 972 miles of line and serves the greater part of the Uruguayan Republic. The system was formerly the property of five companies all worked by the Central Uruguayan Railway, with which they have now been merged. The State Railways of Uruguay have 360 miles of line. The Central Uruguay 4½ per cent. first debenture and 5 per cent. debenture stocks are under a moratorium and no dividend has been paid on the £6,000,000 ordinary stock since 1929-30.

Coal Industry's £25,750,000 Deficit

Some indication of the plight into which the coal mining industry has fallen since the Government took operational control of it is given in a White Paper,* dealing with the financial position of the industry. Throughout the war the Government has been able to regulate pithead coal prices, and its policy is stated to have been to fix prices of coal at a level sufficient to cover costs of production and to leave a reasonable profit to undertakers, without the necessity for Government subsidy. Wartime increases in cost have been spread through the Coal Charges Account so as to equalise costs over the whole industry. Certain districts have made contributions to the account and other districts have received allowances from it. The net balance of allowances over contributions has been financed by Exchequer loans, the total of which to December 31, 1944, has been £25,750,000. This has been necessitated generally by reason of the delay in authorising price increases to meet increased costs. The deficit on the account is equivalent to about 3s. a ton on 1944 output, and if the principle enunciated by the Government is to be put into practice, that extra amount will have to be paid by consumers. This time-lag in adjusting prices to costs is of particular interest to the railway industry, where an even greater disparity has arisen which has been choked by the present control agreement, but it will become increasingly evident as abnormal wartime traffics subside.

The Patent System is an Incentive to Progress

In his recent presidential address to the Chartered Institute of Patent Agents, Mr. W. Warren Triggs, M.Sc., chose for his subject the relation of the patent system to the public interest. Attacks have been made on the so-called patent monopoly but these often emanate from a misunderstanding of terms. It has been said that a monopoly, as understood in its popular sense, deprives the public of something to which it had free access before the grant. On the other hand, a patent monopoly gives to the public something which was unknown to it before the granting of the patent. A patent is, in fact, a reward for the invention or discovery of something new which adds to human knowledge and well-being. Mr. Triggs, in summarising the benefits accruing to the public from the patent system, contended that in addition to conferring something new, the granting of patents stimulates industrial progress. The patent system also creates a powerful incentive to the scientist to direct his discoveries into channels of usefulness instead of permitting such knowledge to remain of merely academic interest. Another aspect of the patent system is the preservation of written records of progress in all the arts, classified for convenient reference and without which further progress would not be possible.

Centralised Traffic Control

A letter on page 414 draws attention to the rapid development of centralised traffic control in the U.S.A. In a recent report on electrical research on the railways, the Association of American Railroads explained how this system had been made possible by the invention of the closed track circuit, which is the foundation of automatic block signalling. About 73 per cent. of American track miles are protected with block signals, and two-thirds of that protected mileage are covered by automatic blocks. Under the C.T.C. system, the A.A.R. went on to say, one man at a central point controls and directs the movement of all trains on as much as 100 miles, or even more of busy line. To him, the trains automatically and electrically report their presence and movements through lights on an illuminated diagram of the controlled section of railway before his eyes, while through push buttons and levers he is able to direct the movements of the trains by throwing the points and setting the signals at distant places. The whole operation is so interlocked and controlled that it is impossible to set points and

* Cmd. 6617. H.M. Stationery Office. 9d.

signals in conflicting positions. There are now in the States more than 4,000 miles of railway equipped with C.T.C., and since January, 1944, the Interstate Commerce Commission has approved eight installations on seven railways covering 400 route-miles. C.T.C. was first installed on the Pennsylvania in 1930 so that the extension to which our correspondent refers has been undertaken in the light of 14 years' experience on the great system which is commonly regarded as representing about one-tenth of America's railway industry.

Maximum Seating or Standing?

Unless it proves practicable to introduce widespread staggering of working hours on a permanent basis, it seems inevitable that the demand for suburban railway transport during the peak hours will continue to exceed practicable economic supply, and, with the provision of new post-war rolling stock, a decision will have to be taken as to whether the needs of travellers are best served by the maximum seating accommodation or the maximum standing capacity. There can be no doubt that suitably-arranged compartment stock provides more seats for a given length of train than is possible with open cars, but the advocates of open cars contend that rapid loading and unloading, plus easier provision for standing passengers, more than offset (in time and convenience) the loss of seating capacity. Recent correspondence in our columns has again directed attention to this subject and recalled that the maximum achievement in providing seats is that of the old Great Eastern Railway, and its successor the L.N.E.R. On pages 418 and 419 this week we reproduce diagrams showing the general arrangement of the "six-a-side" stock devised by Mr. James Holden, with considerable ingenuity, at the beginning of the century, and also the quadruple articulated sets of carriages introduced in the 1925-1929 period. These should prove of value for ready reference when the pros and cons of compartment and open stock are being debated.

Abnormal Snowfall in Simla

On January 10, Simla was visited by an unprecedented snowstorm, with the result that on comparatively level surfaces the snow lay to a depth of between 5 ft. and 6 ft. The passenger station and outwards goods shed roofs together presented a corrugated iron lodgment area of over half an acre, and each was a pent-roof steel structure. The whole of the 170-ft.-long goods shed, and 398 ft. out of the 614-ft. length of passenger station roofing collapsed under the weight of snow. The station roof, spanning the full width of the platform and station offices, was carried on steel trusses about 30 ft. in length, supported by 6-in. × 3-in. r.s.b. columns. The columns carrying the 398-ft. length of roof failed about their minor axes, as shown in the illustration on page 421. The trusses of the goods shed roof varied from 27 ft. 6 in. at the ends to 42-ft. span at the centre of the building. The ridge was curved and every truss was different, the whole building being of very awkward design, necessitated by cramped space on a steep hillside. In this case it was the trusses that failed by crumpling up, the ties breaking. Fortunately, there was no loss of life and no one was even injured. Damage to property is said to be estimated at the apparently moderate figure of about £4,425.

American Locomotive Prices

Some interesting figures have been made public recently by the U.S.A. Interstate Commerce Commission concerning current locomotive prices. Most of the modern locomotives are of great size and power, such as the 5,400-b.h.p. quadruple-unit diesel-electric locomotives that are now becoming so popular for long-distance freight haulage; these cost from $482,900 to $509,000 each. The one 6,000-b.h.p. triple-unit passenger diesel built during 1944 was priced at $522,000. By comparison, the 534-ton Union Pacific 4-8-8-4 articulated steam locomotives of the so-called "Big Boy" class, with their 14-wheel tenders, cost $319,600. These locomotives are designed for the haulage of trains of 100 bogie wagons, weighing 7,000 to 7,500 tons loaded, up continuous 1 in 85 grades through the Wasatch Mountains. The same company's 4-6-6-4 articulated steam locomotives, of which 99 are now in service, are listed at $285,740 apiece. Three series of the 2-6-6-6 articulated engines now standardised by the Chesapeake & Ohio Railway ranged in price from $278,170 to $283,300 each, prices having advanced during the year with increased costs of labour and materials. Of non-articulated steam types, 4-8-4 tender engines have ranged from $194,230 to $255,000 according to type and equipment, and 2-8-4 freight engines from $170,180 to $180,160 each. Diesel-electric shunters of 1,000 b.h.p., of which hundreds are now in service, have ranged round $79,000, and the smaller 600-b.h.p. shunters $60,000 each.

A Great Railway Hotelier

WHEN we read of the death or retirement of any director or officer who once held a prominent position on the former Midland Railway, we get an attack of nostalgia. The recent retirement of Mr. Arthur Towle, Controller of L.M.S.R. Hotel Services, is a case in point. We think that of all the major British railways prior to grouping, the Midland Railway most nearly approached 100 per cent. efficiency in all its departments. We still regret that greatest defect of the Railways Act of 1921—not making the Midland the constituent company of a fifth group. Though the Midland ceased to be, the Towle tradition was adopted *en bloc* by the L.M.S.R. for its hotel and restaurant car services. Whether Mr. Towle's retirement indicates a change in policy remains to be seen.

In British railway history six names stand out as the creators and developers of the Midland Railway—a system which reached its zenith in the last ten years of its existence as a separate undertaking. The names are: Allport, Beale, Johnson, Bain, Granet, Paget, Reid, and last but not least, the Towle family. From its earliest days highly competitive, and without a London terminus of its own until 1868, the Midland had to fight for its traffic both freight and passenger. In very few cases had it the shortest route. No doubt the scenery on its main line through the Peak District of Derbyshire attracted some of its London-Manchester traffic. So did the Settle-Carlisle section for its Anglo-Scottish services. All over the system the stations and the track-side were kept spick and span—the civil engineer's staff included a good contingent of gardeners. Mythical tales were told of the number of coats of paint used for its locomotives and carriages. But the Midland's popularity with the travelling public was principally due to the way in which it studied passenger comfort by the high standard of its rolling stock, the general excellence of its restaurant car services, the courtesy and efficiency of the staff employed thereon, and also to its hotels which both in their design and service struck a new note in provincial hotels. A Midland hotel was never merely a dormitory, but was also the town's social and business rendezvous for all kinds of business gatherings, lunches, dinners and social functions. It is difficult to imagine what Manchester would be like without the Midland Hotel which was opened over 35 years ago. The Midland Manchester and the Midland Adelphi at Liverpool, opened some ten years later, are still worthy memorials to the practical imagination of the late Sir William Towle.

When, consequent on grouping, the Midland Railway became a constituent of the present London Midland & Scottish Railway, naturally, its hotel policy had to be considered. Very wisely, in our opinion, it was soon decided that Midland hotel policy should be continued and in 1925 Mr. Arthur Towle who had followed his father, Sir William Towle, as Controller of Midland Hotel Services, was appointed Controller of the whole of the L.M.S.R. Hotel, Refreshment Room, & Restaurant Car Services. Soon great improvements were effected in the hotels at Euston, Birmingham, Glasgow, and Edinburgh in addition to the opening of new hotels at Stratford-on-Avon, Morecambe, Stoke-on-Trent, and Kyle of Lochalsh. In 1937 the L.M.S.R. completed its triumvirate of hotels worthy of the cities of Manchester, Liverpool, and Leeds by the opening of an entirely new hotel in replacement of the old Queens Hotel at Leeds which the Midland had purchased and modernised in the nineties. Several other important projects for more railway hotels were under consideration.

But in 1939 came the war, and with it requisitioning of hotels and withdrawal of restaurant cars, rationing and innumerable difficulties for hoteliers and caterers. In fact, on all British railways, that formerly very important department of any great railway, entered into an eclipse as intense as the blackout. Such hotels as are left have now become mere dormitories. Memories are short, and it may be that it was this temporary eclipse in the importance of railway hotels and restaurant car services that accounts for the very brief reference to the retirement of Mr. Arthur Towle in the Chairman's address at the L.M.S.R. annual meeting last month. How important the department was may be gauged by the fact that in a pre-war year (1938) its 26 hotels, scores of refreshment rooms and 300 restaurant cars earned £3,080,430 and the surplus of revenue over expenditure was £330,911.

There have been criticisms from time to time that some L.M.S.R. hotels were luxury hotels and some of the charges both in the hotels and in the restaurant cars were too high. True the hotels were first class. Concerning tariffs, does not the fact that L.M.S.R. hotels and restaurant cars were invariably well patronised and earned such a handsome profit prove that Mr.

Towle was merely following the old British railway axiom of charging what the traffic would bear. In our view, in his long and successful career, Mr. Towle only made one serious error of judgment. He should have left the ground floor of the Midland Hotel, Manchester, as his father planned it, and not made the alterations there in 1938. But to repeat the trite remark—a man who never made a mistake, never made anything.

Will the British railways as a whole make any serious mistake regarding their post-war hotel policy? If we are to believe the politicians there is likely to be a great increase in tourism to this country after the war. More hotels of various descriptions are badly needed, hotels in business centres as well as resort hotels, to say nothing of holiday hostels and camps. Can they be more economically financed or more efficiently run than by the railway companies? That is a question which must be left for a future article. We are getting away from the *raison d'être* of this editorial which is to pay a well deserved tribute to Mr. Arthur Towle in particular and the Towle family in general for their work over a long period of years in improving the amenities of British railway travel.

Signalling Single Line Stations

ALTHOUGH Great Britain has some important sections of single-line railway route, the working of single lines and the arranging and signalling of their station layouts generally—except as regards block working, early put on a sound footing in England—have commanded rather less attention than in some other parts of the world where such lines are the rule and double lines found only in the vicinity of the larger centres or connecting those of chief importance. The first railways of any consequence in the British Isles were built as double lines, but the great pioneer of practical telegraphy, Sir W. F. Cooke, over a century ago, sought to prove that single lines might be worked safely and expeditiously by methods which he elaborated and which were tried for a time, on one line at least. His object was to render railway communication more generally available to the community at a considerably reduced capital expenditure. Eventually some important routes were built as single lines and remain so, but the great developments of this form of construction, from the prevailing circumstances, took place in other lands, presenting there problems of operation seldom encountered in the British Isles.

In many of these countries, for a long time little attempt was, or could be, made to signal such routes. In North America, for example, where a very large mileage of single line came into existence, conditions were such that signalling, as the British traffic officer early came to understand it, was out of the question. The passing siding at stations, the "blind" siding in between, points worked for the most part by train crews themselves, with the telegraphic dispatching system to regulate the traffic, were for years the characteristic features of railway operation in the United States, except where circumstances obliged managements to adopt methods and equipment based on European experience. The scene has greatly changed but the imprint of earlier times remains and much of the most modern American practice today is inevitably influenced by it. In other parts of the world, many of them directly subject to British influence in such matters, conditions were again such that single lines had long to be the rule, and although doubling afterwards was extended considerably, much single line was left, in many cases carrying a relatively heavy traffic. Even where traffic may be considered light on the whole, a few important mail trains and other expresses may have to run, and they cannot pass through stations at speed unless adequate safeguards are provided.

Exactly what safeguards are called for in a given case and what signals, point locks and other equipment should be installed to guarantee them, are technical questions of great interest, involving the number and quality of the available staff, the convenience of working a station, the kind of traffic and its density, the proportion of through to crossing movements, the cost of installation and upkeep, the facilities for maintenance, and so on. How varied the results can be was illustrated in the paper presented to the Institution of Railway Signal Engineers on April 18, by Mr. R. S. Griffiths, Past President, in which he gave diagrams of no fewer than 37 examples of single-line station or passing-loop layouts, taken from many countries. Apart from the types of signal and signal aspects shown, which might vary without much affecting the working in principle, the chief differences between the layouts are seen to consist in the methods adopted for operating and locking the points and using the various tracks, that is making the latter available for traffic in either direction at will, or maintaining a fixed direction of traffic and working a loop as a piece of double line interposed between two lengths of single. Both these methods have their advocates. Where there are fast through trains, but not much other important traffic, the practice of having one direct through track, and a loop, or passing siding, line or lines, has found much favour, as speed can be maintained by non-stopping trains, particularly if there is no token-exchanging to be reckoned with, although even then this can be done by using suitable exchanger apparatus.

On the main lines in the south-west of France, for example, this through running on the straight track is always adopted. For the expresses a station is practically non-existent. What arrangements are made for dealing with other trains and how a crossing is effected vary with circumstances; convenience of working plays a prominent part. It is usually considered desirable that a passenger train arriving alone, or meeting a goods train, shall be received next to the station buildings, for both greater convenience and safety, as there is usually neither footbridge nor subway at such places, and low platforms are the rule. Occasionally, quite elaborate key-interlocking arrangements permit of working such a station in different ways at different periods, partly with the object of simplifying the work of transferring the keys. In other parts of the world similar general principles prevail, and in many cases the necessity of employing native staff strongly influences the choice of the point locking and signal equipment. Even with the most complete appliances, however, accidents occasionally have been caused by an almost incredibly stupid misuse of them.

The signalling arrangements at these single line stations, as Mr. Griffiths's paper showed, can be remarkably varied. The choice of this or that type of signal, say disc or semaphore, naturally is bound up with the practice prevailing in any country, and is not of critical importance in itself. The aspects, or meanings to be conveyed to the drivers, however, call for careful consideration, and have to be adapted to the requirements in the various localities without the sacrifice of simplicity and clearness. Where speeds are low and all trains stop, very little usually is required beyond the giving of some assurance that points are correctly set and secured for an incoming movement; the departure of a train is directly supervised by the station staff, which takes the responsibility for seeing that everything is in order. There may be some form of block or equivalent working by telegraph or telephone, but starting signals are often dispensed with.

The case is quite different when through running is involved. If speed is to be maintained with confidence, then the interlocking and block-working elements of the problem assume equal importance and the signals need to be able to show unmistakably that authority has been duly obtained for the train to enter the single-line section in advance and, in addition, that the station itself is clear and arranged for a non-stop movement. If, on the other hand, a train is called on to stop, outside or inside the station, then either of those conditions must be capable of being indicated with equal clearness. These requirements were met in the earliest attempts to apply interlocking to the main single-line routes in India, made long ago, and still form the basis of the latest arrangements used in that country and illustrated in these columns in recent years. Coupled with them are the problems of how to provide adequate distant signal indications and sufficiently to protect shunting movements in station limits with the minimum of hindrance to approaching traffic. Elsewhere the requirements are not materially different, at least where stations proper are involved, and in the single-line layouts of most countries the aims are seen to be much the same.

Where, however, as in America, or where American influence has left its mark, automatic signalling is met with and, in later installations, the extension of the action of the dispatcher seen in the centralised traffic control, the role played by the station staffs becomes entirely changed and the conceptions of block section and station limits so familiar to the European traffic officer recede somewhat into the background. The working at the stations and loops, although calling for the same guarantees as to safety, partakes less of local convenience and becomes an element in a complete whole directed from one point, and which track a given train takes at a station is decided, or at least can be decided, if he sees fit, by the dispatcher, and is no longer a matter within a stationmaster's jurisdiction. Although these methods possibly will spread beyond the areas they are now found in, those more particularly dealt with by Mr. Griffiths undoubtedly will continue to enjoy a wide field. His paper, with

its wealth of examples, is of timely interest, in view of the consideration that will have to be given to the building of new lines in certain territories and the signalling of others as yet imperfectly equipped. In bringing so many details together he has not only provided a useful source of reference touching a considerable diversity of practice, but has again emphasised, as his other papers and lectures have done, how the signal engineer's principal task is adaptation to circumstances, from the fulfilling of which springs that variety of interest which is one of the chief attractions of his art.

Summer Train Services

WE understand that the summer train services which will operate on and from Monday, May 7, will be based broadly on the services which were advertised to run last summer (but did not become fully operative because of the imminence of "D"-day) with the addition of a number of other trains which were introduced to meet additional traffic requirements as a result of the abolition of the ban on travel to coastal resorts. If, as may reasonably be expected, holiday travel reaches the level of last year, it is clear that these advertised services will not enable the companies to deal with the very large number of passengers who will desire to travel, and it will be necessary to run additional relief trains from time to time.

In this connection we observe that on April 18 Mr. P. J. Noel-Baker, the Parliamentary Secretary to the Ministry of War Transport, stated in the House of Commons that the Ministry had given the railway companies considerable discretion to provide relief trains provided they did not interfere with the working with essential traffic, but that it would be wrong to encourage the public to expect any substantial increase in passenger facilities this summer. In a supplementary question, however, Captain Strickland asked the Minister whether he would try to do better during the coming holiday period than he did last year when he had to send an officer of his Ministry to the railway stations to cope with crowds which had become unmanageable and the railway companies had to put on extra trains.

In reply, the Parliamentary Secretary indicated that, speaking from memory, he thought the position was due to a misunderstanding of instructions. Surely the unprecedented scenes at the London termini during last June and early July were directly due to the railways complying with the very rigid instructions of the Ministry that special authority had to be obtained from the Ministry on the day of travel before any additional or relief trains were run.

The facts are set out clearly in the editorial article in an issue of June 2, 1944, which was headed "Whitsuntide Railway Travel." If there was any misunderstanding, it was certainly not on the part of the railway companies. With his subsequent statement that if the Ministry succeed in its policy of getting people to stagger their holidays the position will be much better this year, we agree. But we must confess some considerable scepticism on the matter having regard to the poor results which have followed similar efforts which have been made over a series of years.

Bad Language

WORDS and phrases coined in wartime have a way of spreading beyond the circles where they served a useful purpose, and of being abused by persons to whom catchwords are convenient substitutes for considered statements. For some years the verb "to organise" has been overworked by the vast army of uniformed clerks of all ranks who swell the Services; it has been adopted by the Civil Service; and it is even percolating in its debased form into industry. A short time ago a business acquaintance on whom we called in his office offered to "organise" us a cup of tea.

There is the danger of this insidious slogan. A simple act that in peacetime would have been left without a thought to the discretion of an office boy or a junior typist, becomes dignified by having the label of "organisation" attached, and in our mind's eye we see departments springing up for the provision of cups of tea for visitors, with other departments for clearing them away, and still more departments for washing up, all presided over by a host of assistant and deputy directors who camouflage from the multitude the slender nature of their duties by disguising them with a string of initials.

Eventually a capacity for telling other people to "get something organised" becomes accepted as evidence of high administrative ability. The word is glorified above the deed, and lower down the ladder subordinates are reduced to perverting its meaning into an instruction to "acquire or arrange by dubious means" and begin to act accordingly, secure from censure because they are "organising."

We have given an example of a good word put to bad uses. Let us consider now a silly phrase that can be put to still worse ones. To have "had it" has already become the theme of a comic song and tries to pass itself off as a harmless joke. We regard it on the other hand as the shameful alibi of the minor official, as the cry of the man who is the slave of the machine and unable to take action on his own when circumstances do not fall neatly into their expected sequence.

We know a true story of an officer in one of the Services who was posted to a camp deep in the country. On arriving at the nearest railway station he decided to leave his luggage there for collection later, and rode to the camp on the bicycle he had brought with him. After three miles pedalling up hill and down dale (but chiefly up hill) he presented himself at the office of the assistant adjutant (a young lady) and requested that a vehicle might be sent to collect his trunk. The assistant adjutant regretted that this was impossible. The regulations, she explained, provided for transport being sent to collect officers and their luggage, but not for the collection of luggage without the officer. The officer waxed eloquent on the sense of duty he had shown in cycling to his post immediately on arrival instead of waiting at the railway hotel until a vehicle was available to fetch him, probably some hours later. On this the assistant adjutant fell back upon her foolproof getaway, and with a merry laugh informed the officer that he might be deemed to be one who had "had it." The officer thereupon remounted his bicycle in some dudgeon and pedalled back to the railway station, whence, having telephoned for transport for himself and his belongings, he was in due course collected without further objection.

We should be sorry indeed for this "you've had it" attitude to survive into post-war life. Even those who accept it now would no doubt be aggrieved if the phrase was trotted out by a stationmaster who had not held an advertised connection, or made other arrangements to get passengers to their destinations.

We have quoted the two phrases which offend us most, but we think note might be taken of the extensive use made today in the Services of exhortations like "get cracking" and "get weaving." If such stimulants are really necessary to ensure the prompt execution of a simple order, it implies that a lethargy is stealing over us. We do not know whence this lethargy proceeds, unless it be from nearly five years of being "posted" here and "directed" there as mere items in a list of names manipulated by a casual clerk. This, we think, is the true solution, and to call the process "planning" is just another example of bad language.

HIGH SPEEDS AND THE STEEL RAIL.—With the increased speeds that may be expected after the war, the stresses to which rails are likely to be subjected in the track will become greater than ever. The records of British track maintenance during the war probably would show that where it has been possible to keep the standard of maintenance more or less at its peacetime level, there has been some reduction in the number of rail breakages in main lines. Where this has been the case, it is not unreasonable to assume that the track impact stresses responsible for causing rail failures have diminished with the reduction of average and maximum speeds; conversely, as post-war speeds rise, the fracture curve may be expected to rise also. In the United States, where today rail speeds up to 100 m.p.h. are by no means uncommon, future speeds of 120 m.p.h. are confidently expected. In commenting on the future of the steel rail in these conditions, the *Railway Age* remarks that at such speeds the stress changes in rails will be practically instantaneous, and that the sudden impacts of the rolling loads, especially with heavy loads carried on small diameter wheels and in low winter temperatures, may tend to cause greater damage to rail-heads than ever before. In recent years American rail manufacturers have improved greatly the quality of their product, in such matters as the soundness of the steel and with the help of retarded cooling, but our contemporary considers that additional steps will be necessary to produce rails having the necessary resistance to the high-speed stresses of the future. It is recommended that further consideration be given to the use of alloy steels, if they can be produced at a reasonable price, and in particular to heat treatments. The sorbitic treatment is specially commended as one which gives "excellent high-tensile properties, good ductility, and toughness."

LETTERS TO THE EDITOR

(The Editor is not responsible for the opinions of correspondents)

Centralised Traffic Control

London. April 14

To the Editor of The Railway Gazette

Sir,—On page 545 of your December 1 issue you report several cases where American railways have installed centralised traffic control. This method of operating is fast becoming standard practice in the States and is not confined to lines carrying a thin traffic. The Pennsylvania has recently applied the system on its Pittsburgh and Buffalo branch. One operator at Brady, near Pittsburgh, controls 53 miles of main-line single track and 31 miles of secondary track up to a point near Oil City. As he sits in front of the panels which compose the control machine, his control is absolute over points and signals. The through traffic over the branch includes two passenger trains and from 7 to 15 freight trains in each direction daily, and local freight pick-up trains are run in addition. The speed limit is 50 miles an hour for passenger trains and 45 miles an hour for freight trains.

C.T.C. is reckoned to save a minute a mile in running time at least and has other advantages over the old method of working by timetable and train orders, with automatic block signal protection. For instance the control machine is equipped with an automatic train chart which records all train movements.

You described in your issue of August 11 how the L.N.E.R. had installed a train control of standard main-line type to take care of wartime traffic on its Great North of Scotland section, which has many stretches of single track. The cost of such a control will be a heavy addition to the working expenses of a section that carries a lean business in peacetime. An American railway would have introduced C.T.C., replaced most of the signalmen by automatic signals and operated all the lines by means of one control machine at Aberdeen, with perhaps a subsidiary machine at a northern junction.

If the C.T.C. system has not been investigated by our railways, they would be wise to make inquiries without delay. If the Pennsylvania's methods can be adapted to suit our conditions, the cost of working many sections of line, particularly in Scotland and Wales, might be substantially reduced—a matter of great importance in the post-war years.

Yours faithfully,

VIGILANT

[One thing has to be borne in mind in considering any such changes in our established methods of operation, and that is that the safety conditions covered by our block telegraph regulations must be provided for in the altered working, whatever other advantages—and they might be considerable—the latter may offer. American practice is not influenced by this consideration, as such manual block working as exists is much simpler than ours, but it will have to be given due weight in Great Britain.—Ed. *R.G.*]

Post-War Re-Absorption of Railwaymen from the Forces

Q(M) Northern Ireland District,
Merville, Whitehouse,
Belfast. April 16

To the Editor of The Railway Gazette

Sir,—I have only just had an opportunity of reading in your March 2 issue your correspondent's article and your editorial on the subject of the post-war re-absorption of railwaymen from the forces, and would like, if I may, to make a few comments.

Your correspondent rightly points out the excellent work performed by railwaymen during the war years under trying and often dangerous conditions. He does not, however, mention the conditions which the service man has endured with equal fortitude, not the least of which have been his long separation from his family, his home, and in many cases, his native country and all that this implies. To have been away from one's children for upwards of five years is something which cannot be replaced. However, I entirely agree with you that it is essential that the need for optimum efficiency in every department should be kept well to the fore; in fact, I would go further and say it should be the prime consideration.

The great British railways are probably in a better position to place returning servicemen in jobs commensurate with their total ability and experience than any other form of undertaking, embracing as they do so many and widely different branches of industry in one organisation, and in the interest of the railways generally every effort should be made to make the best use of the material available.

The examples of an artillery major or an infantry colonel which you quote do not generally reach their positions without achieving considerable organising ability, a capacity for quick and sound decisions, self-confidence and an intimate knowledge of their fellow men in all walks of peacetime life, together with the ability to handle them and assess their values. These, I suggest, are all qualities essential to practically all the higher administrative positions on a railway company and are a valuable addition to a former employee's technical railway experience.

Although it may not always be possible to find the returning serviceman employment commensurate with his talents in the department in which he was formerly employed, I would suggest there may often be ample scope in some other branch for his particular abilities to be used to the full. May I take the case, for example, of a former operating man who joined the Navy. During the course of the war he has had much practical experience in the handling and administration of many types of ships, eventually rising to command a frigate. This is an extremely responsible job, although holding only the rank of Lieutenant or Lt.-Commander. The knowledge and experience this man has gained in all the many secret and wonderful aids to navigation alone which has been developed during the war would be of value to the Marine Department of a railway company in their inevitable adaptation to the requirements of its peacetime shipping fleet. Similar instances could be quoted regarding the R.A.F. *vis-a-vis* railway air services.

On the other hand, there are many railwaymen who have not joined the forces and, due to their hard work and ability, coupled in most cases with the exceptional opportunity offered them by the absence of their colleagues, have gained considerable promotion. They, too, through their wider experience due to the war, have vastly improved in value to the railway company.

I think this must be accepted as long as it is recognised that in most cases it is due to the exceptional opportunities that the war has offered to these men. The fair-minded ex-serviceman will not resent this as long as the exceptional opportunities which many of them have had of broadening their knowledge and experience in other directions is equally recognised and used to the full. I would, therefore, suggest that whatever has happened to railwaymen, whether still at their jobs or in the services, is all incidental to the general upheaval of war. Some have inevitably lost many things, including experience and ability, others have gained. Whatever the present position of the individual, the essential thing seems to me to be the post-war efficiency, not only of the railways, but of the nation as a whole, and this very largely can be influenced by the correct assessment of the value of the ex-serviceman on his return to industry. I think also that any attempt to re-absorb these men on a seniority basis would be unfair, not only to the individuals concerned, but in many cases to their former colleagues also.

A great responsibility therefore rests on the committees or selection boards which are to interview these men on their return. It seems to me that they should not be solely departmental ones but that the best answer would be for the men to report initially to a central committee composed of representatives from all departments so that each individual may be directed to the department in which his combined railway and service experience would be of most value. This central committee should also include a responsible representative of the services to assist in the correct assessment of the value of individuals appearing before it. From this central committee the men would be directed to departmental committees or interviewers who would direct them to specific appointments.

Yours faithfully,

F. V. SPILLARD,
Lt.-Colonel A.Q.M.C. (Movements)

[We fully appreciate the views expressed by Lt.-Colonel Spillard. The reinstatement of returning Service men in positions where their combined railway and Service experience would be of the most value will not be easy, even within the wide ramifications of the railway industry which, after all, has only a limited number of responsible positions despite its numerous departments. The Service men will have been out of touch with the details of railway work for anything up to six years, and there are many young railwaymen who had only very limited periods of railway service but have achieved and successfully held responsible positions in the Services. Another feature which cannot be disregarded is that during the absence of their colleagues in the Forces an appreciable number of railwaymen have shouldered successfully considerably greater responsibilities than they would have done under normal conditions. We understand that the railway companies are giving considerable thought to the best method of re-absorbing the Service men under arrangements which will enable their abilities to be utilised fully and at the same time provide for the recognition of similar qualities displayed by the existing staff during the war. One way of achieving this would be to give selected Service men, and railwaymen who have shown special aptitude under war conditions, courses of special training for, say, two or three years, with the object of their becoming (*a*) junior officers and (*b*) filling supervisory posts

which normally would not be within their reach. We agree that, even under this proposal a great responsibility will rest on the officer or officers who are to interview Service men on their return, but Colonel Spillard may rest assured that the railway companies are not likely to be unmindful of the importance of this phase of the matter.—ED. *R.G.*]

Rotary-Cam Poppet Valve Gear

23, Arksey Lane, Bentley,
Doncaster, Yorks. April 21

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—As part of my duties I have travelled many thousands of miles on the footplate of rotary-cam poppet-valve geared engines partly with the object of observing any untoward behaviour but without incident, although from his letter published in your February 9 issue Lt.-Commander P. Ransome-Wallis would appear to have been singularly unfortunate with his footplate trips on locomotives having this type of gear. I think it only proper to point out that "One swallow does not make a Summer," and it will no doubt be news to "Mere Observer" to learn that poppet valve gear is very much more alive than his remarks would convey. Many instances could be quoted of outstanding performances by engines fitted with this form of gear; for example, the breaking of the South American Railway speed record in 1939 by one of a class of engines all of which are so fitted.

In addition to the many advantages of the double-beat poppet valve over the piston valve, such as its lightness, facilitating fitting and maintenance, the absence of a "lubrication problem" at high superheats, and so on, there is also nothing of that loss of steam tightness which is so common with piston valves, and whilst one cannot query the figures quoted by Mr. Loubser in connection with the comparative trials of the "19C" and "19D" class locomotives, they should not in any way be taken as representative of poppet valve gear performance generally. To my knowledge many railways could quote figures for poppet valve engines showing an average saving of at least 10 per cent. in both fuel and maintenance costs as compared with those of the same class having Walschaert gear and piston valves. His figures are all the more surprising in view of the fact that a chief criticism of poppet valve gears is not that they do not show a saving over piston valves, but that the saving is not sufficient to warrant its wholesale adoption.

Manufacturers of locomotive poppet valve gear are at a disadvantage compared to many other branches of engineering in that they are unable to shop test or try out their product as the locomotive in service is the real criterion, with the result that it has at times got off to a bad start. There is no doubt, too, that some locomotive engineers are biased against poppet valve gears but their diehard attitude should not be allowed to influence the case, as many devices that we take for granted today met with opposition at their inception and often for a long time afterwards. The failures of poppet valve gear get far more publicity than their successes, and the saying "Give a dog a bad name" was never more applicable.

It is my experience that the success of this form of valve gear depends to a great extent and certainly much more than is generally realised, on the desire to make it a success by the railway personnel concerned. Even so, close co-operation between the railways and the manufacturers with their specialised knowledge and experience is essential if full advantage is to be taken of the many mechanical and thermo-dynamic advantages of rotary-cam operated poppet valves.

Yours faithfully,
R. H. PARKER

Publications Received

Coachmaking, 1844-1944.—The Manchester firm of Joseph Cockshoot & Co. Ltd. celebrated its centenary last year in the austere way required by war conditions. Nevertheless, it was found possible to mark the occasion by the issue of a handsome booklet entitled "Coachmaking, 1844-1944," outlining the development and changes in the work of the firm since it was established by Joseph Cockshoot, the younger, in 1844. Although the direct record is that of 100 years, there is no doubt that the business was a direct offshoot from a much older one. The firm enjoyed a high reputation and won many awards for making carriages and harness. Gradually it abandoned the original trade and entered the motorcar industry, at first as body builder to Rolls Royce. The company is now engaged on war work. This record of a famous firm and the personalities which have contributed to its success is well worthy of being read. A more detailed story could be told and we understand that further illustrations are available which would add materially to the interest. The directors hope that in more favourable circumstances a revised and enlarged edition can be compiled, and we trust that they will achieve this objective.

The Modern Gas Turbine. By R. Tom Sawyer. New York: Prentice-Hall Inc., 70, Fifth Avenue. 9¼ in. × 6 in. 215 pp. Illustrated. Price $4 net.—Published material on anything that is in process of active development is usually scattered, and deals only with one aspect at a time. This book, however, provides a comprehensive survey, not only of the historical and early development work in connection with gas turbines, but also with achievements up to date in the application of the new prime-mover to various purposes. The author is enthusiastic in his claims for the eventual development of the gas turbine, and obviously feels that it will in due course supersede most of its competitors. He rightly points out that its progress is bound up with metallurgical development, and hints that security restrictions prevent publication of the latest data about heat-resisting alloys. It is stated that temperatures of 1,200° F. are now practicable, giving efficiencies comparable with the best that can be done by any other form of prime-mover; and it is suggested that 1,500° F. is "just round the corner" to give an outright advantage.

About one-third of the book is occupied by an historical and somewhat elementary introduction, with a chronological account of early patents and proposals bringing the development up to about 1928. A chapter then discusses the gas turbine using diesel-engine exhaust gases, as a supercharger or as a prime-mover. Chapter 5, acknowledged to Mr. Ronald B. Smith, occupies just over twenty pages with calculations and with considerations of design bearing on efficiency and operating characteristics. In Chapter 6 the possibilities of the gas turbine in the oil and chemical industry, the steel industry and other miscellaneous uses, including straight power plants, are considered; there is also a reference to the Velox steam generator, and its application to locomotives. Chapter 7 is concerned with proposals for using the gas turbine in marine practice, and Chapter 8, which is of the greatest interest to our readers and occupies nearly thirty pages, discusses the gas-turbine locomotive. The first section of this chapter deals with turbo-charged diesel engine examples, and then an account is given of the Brown-Boveri locomotive, which went into service in 1941 on the Swiss Federal Railways. Another section gathers together the principal data of the proposed locomotive designs by the Allis-Chalmers Company. Finally, a short note is devoted to the General Electric gas-turbine locomotive design. Most of the material in this chapter has already been published in periodicals, papers or manufacturers' brochures, but the chapter brings the principal data together in a convenient form. The book continues with a chapter on the exhaust turbo-supercharger on aircraft engines, and another, mainly based on Mr. G. Geoffrey Smith's book, on the gas turbine as an aircraft prime-mover, including jet propulsion. Finally, there are appendices, giving a bibliography and a list of symbols and abbreviations.

The book thus deals comprehensively with rather a big subject, and in such a short space as 200 pages it is physically impossible to treat each aspect of the subject exhaustively. Indeed, it is fair to say that the book contains little that is not already known to those who have studied the subject as it has developed, but it will serve as an excellent introduction to the subject to anyone who wishes to take up such a study at this point of development.

The Official Register of Passenger Train Equipment. New York: The Railway Equipment & Publication Company, 424, West 33rd Street. 11 in. × 8 in. 76 pp. No price stated.—This is a publication issued at the request of the Association of American Railroads, twice annually, namely, in March and September. It contains a list of passenger train equipment of both railways and private owners in the United States and Canada, showing by vehicle number, serial numbers, or names, such information as the type, length, seating capacity, and special features of the equipment, and the mileage and *per diem* rates applying thereto. In addition, it gives the name of the appropriate official to whom correspondence should be addressed relating to passenger train vehicles interchanged, and to whom passenger train carriage mileage or *per diem* statements should be sent. The book includes the list of definitions and designating letters of passenger equipment cars, as adopted in 1910 and revised in 1942 by the Association of American Railroads.

Titans of the Track—L.M.S.R. Compiled by I. Allan and obtainable from him at 225-227, Laleham Road, Staines. 6 in. × 4 in. 32 pp. Price 1s. 6d. This booklet forms an addition to Mr. Allan's "Titans of the Track—S.R." and, with the exception of three pages of descriptive matter on the L.M.S.R., consists of photographs depicting locomotives and trains on the company's system. The photographs are accompanied by short paragraphs.

The Scrap Heap

QUIET, PLEASE

Said the bus conductor: It's so quiet in London now, you could hear a rocket drop. —*From "The Evening Standard."*

* * *

NOSTALGIA

Nostalgia (Gr. *nostos*, "the return home"; *olgos*, "pain"), a technical term for home-sickness which when as sometimes it takes the form of acute melancholia becomes ruinous to health and even fatal. It is said that inhabitants of mountainous countries suffer more keenly than others; but it seems to have less to do with the affection for the physical features of home than with inability to break with old habits and modes of life. In armies it has been found necessary to adopt measures to prevent desertion on this ground. In Canada the playing of *Lochaber no More* by the pipers of Highland regiments had to be interdicted; and so in France it was forbidden under pain of death to play or sing the *Ranzo des Vaches* in the hearing of Swiss mercenaries.—*From Chambers's Encyclopaedia.*

* * *

COAL FACTS

For all operational purposes, the Government took over the ownership of the coal mines in June, 1942. Since than: Output has fallen from 1·06 tons to 1·02 tons per man-shift. The price of coal to the consumer has risen by 11s. a ton. And now it is revealed that during the war the Government through the Coal Charges Account has subsidised the industry with £25,750,000 of public money. This cannot go on. The coal mines should be turned over to free competition at the earliest possible moment.—*From "The Daily Express."*

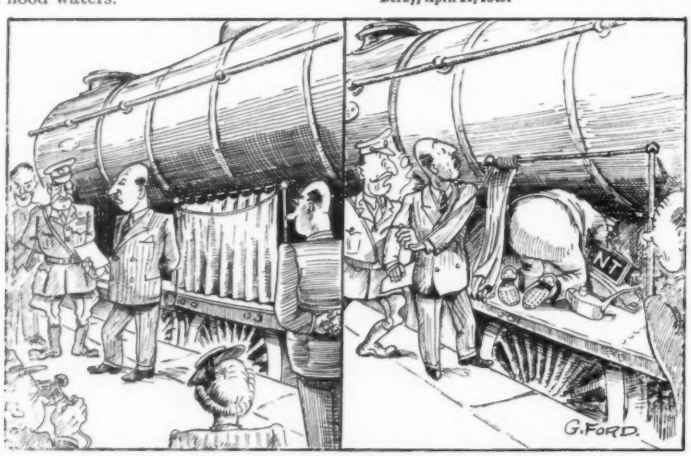
* * *

LEGALISED SLAVERY

Mr. J. Gibson Jarvie, the banker, said at Manchester that if the Government's power to "direct" labour was continued after the war historians might rightly claim that the war years legalised slavery in England.

"As purely war measures these controls may have been justified, but I cannot conceive that they will be tolerated into the peace.

"Government and bureaucratic interference has reached the high water mark. It is already in full flood. If we meekly accept the position, then British industry, independence and freedom will drown in these flood waters."



Technical hitch

[Reproduced by permission of the proprietors of "Punch"

RADIO QUIZ

Query: From what famous book are the following the opening words:—London, Reading, Chippenham, Weymouth, and Taunton?

Answer: *Bradshaw.*

* * *

100 YEARS AGO

[*From* THE RAILWAY TIMES, *April* 26, 1845]

MIDLAND RAILWAY.—ACCELERATION of TRAINS.—The Public are respectfully informed, that on and after the 1st of May next, the following alterations will be made:—

DOWN TRAINS.

The Express Train, which leaves London at 9 o'clock in the Morning, will be run specially, and arrive at Derby at 25 min. past 1, at York at 4 40, and at Newcastle at a quarter before 8 in the Evening, instead of a quarter past 9, as at present.

The Down Day Mail, which now leaves London at half-past 9 in the Morning, will leave at half-past 10, reaching Derby at 3 40, York at 7 30, and Newcastle at 11 o'clock in the Evening.

The Train which now leaves London at 11 o'clock in the Morning will not be continued from Rugby over the Midland Railway; but

A New Train will leave London at 12 o'clock at noon, which will reach Leicester at 4 15, Nottingham at 5 45, Derby at 5 45, and York at 20 minutes past 10 o'clock in the Evening.

UP TRAINS.

The Train which now leaves York at Leeds at 6 50, will leave Leeds at half-past 6, Derby at 10, and reach London at a quarter past 4 in the Afternoon, instead of half-past 5 o'clock.

The Train which now leaves Newcastle at quarter before 6, and York at 10 minutes to 10 in the Morning, will leave Derby at 2 o'clock, and will reach London at 7 o'clock in the Evening, instead of 8 o'clock.

The Express Train, which now leaves Newcastle at a quarter before 9 in the Morning, and York at 25 min. past 12, will leave Newcastle as at present, York at 12 o'clock, and Derby at 3 15, reaching London at a quarter before 8, instead of a quarter past 9 in the Evening.

By order,
J. F. BELL, Secretary.

Derby, April 21, 1845.

If you are in a train at 9.39 p.m. (black out or dim-out time) in the five-mile coastal belt, you will still, officially, have to pull down the blinds. This is because your railway line has been told by the Railway Executive Committee that the Ministry of War Transport has had no indication from the Ministry of Home Security that there is to be any change in railway blackout rules.—*From "The Daily Express."*

* * *

THE REICHSBAHN KNEW

The illustration below, a poster exhibited by the German State Railways on a number of British railway stations before the war, was the subject of comment in our November 18, 1938, issue, when the following paragraph appeared:—

"The inscription underneath the pictorial poster of the Reichsbahn, exhibited at a number of railway stations reads:

'Visit mediæval Germany'

Nothing like being candid!"

The poster was reproduced in our December 2, 1938, issue, and also in our September 17, 1943, issue, when it was captioned, "Germany's Unconscious Humour."

OVERSEAS RAILWAY AFFAIRS

(From our correspondents)

INDIA

Collision on N.W.R.

At about 3 a.m. on March 22, 191 Up passenger train from Karachi to Rohri, North Western Railway, was run into from the rear by 571 Up goods at Jungshahi Station, about 53 miles from Karachi on the double-line section between Karachi and Kotri. The rear two coaches of the passenger train were telescoped, and the leading seven wagons of the goods train were severely damaged. Sixteen persons were killed outright, but eight more died of injuries later, making a total of 24 dead ; and 43 were injured.

Relief trains from Kotri and Karachi arrived at Jungshahi at 7.15 a.m. and 8.15 a.m. respectively. A special train bringing the injured to Karachi arrived at Karachi Cantonment Station at 9.17 a.m.

Mr. W. T. Biscoe, Chief Operating Superintendent, N.W.R., left Lahore immediately after receipt of the news, and has held an inquiry at Jungshahi.

SOUTH AFRICA

Training School for Ex-Soldiers

A temporary training school for discharged soldiers, to cost £8,000, is to be built by the Railway Administration pending the completion of a permanent training centre. This school not only will provide refresher courses for those railwaymen who have languished for some years in prison camps, or have been in the Army for some years, but also will train men for improved grades in the service.

The large training centre at Esselen Park (previously known as Kaalfontein) will have cost, it is estimated, about £1,000,000 when completed.

Air Transport

Speaking in the House of Assembly, Mr. F. C. Sturrock, Minister of Transport, said it was hoped that the air conference held recently in Cape Town would not only prepare the way for a greater degree of air co-operation in Southern Africa, but would also formulate, in conjunction with the Union's neighbours, the basis on which air services would be operated to ensure an adequate and efficient network of services. In part, the conference dealt with the many technical problems inseparable from the running of a civil air service. Another of the main subjects discussed was the trunk service from the Union to Great Britain. This, as a joint service on a basis of reciprocity, was a development which the Union had very much at heart.

The policy of the Union Government as to post-war civil aviation was to maintain the principle of national sovereignty of the air, to safeguard the air interests of South Africa in accordance with the country's defined policy, and to co-operate with other countries to this end, and to support plans aiming at international agreement on all necessary standards of safety, military security, and the proper regulation of air travel.

Because, in the air sense, South Africa was a relatively small country, it was important to secure safeguards against the uncontrolled competition of other and larger countries. The Union had neither the means nor the wish to indulge in cut-throat competition with any other country. A simple international convention, to which the Union would be a party, and which would indicate routes, frequency of services, rates, fares and such matters, would suit the purpose.

Johannesburg Aerodrome

Palmietfontein, which adjoins Klipriversberg and is south-east of Regents Park, will serve as the Union's international airport until the Government's proposed new airport has been constructed. It has been added to the list of customs aerodromes in the Johannesburg district, and is capable of receiving large aircraft. Johannesburg will be the international terminus for the Union, and other centres will be served by feeder services. The Germiston airport will continue to be a municipal airport.

Airfields

It was stated recently by Mr. F. C. Sturrock, Minister of Transport, that it was the Union Government's policy to reserve its domestic air traffic for its own planes. The only overseas service South Africa was planning at present was that with London.

Of the three super-airfields the Union Government is now building at a cost of well over £3,000,000, the largest will be the international one on the Witwatersrand. This will have one runway 3,500 yards long and 66 yards wide, and two measuring 2,750 by 50 yards. The national airports at Cape Town (Langebaan) and Durban will each have a runway measuring 1,600 yards by 50 yards.

All the runways at the aerodromes will be of concrete and each airport will have refuelling and repair facilities. The Minister said also that the Union's new airports were all being designed to handle aircraft of up to 100,000 lb. weight. (The Avro-York weighs approximately 62,000 lb.)

When the three new airports are ready the Union will have eight major all-weather airfields with runways ranging from 1,100 to 3,500 yards in length and eleven major aerodromes offering full facilities for refuelling and repair.

Railway Construction

It was stated recently in the House of Assembly that the Railway Administration had at present only one railway construction proposal in view, a short avoiding line in Cape Province, for which it was proposed to seek Parliamentary approval during the present session. This line would be electrified. The Administration had adopted proposals to electrify the following existing sections : avoiding line, Cape Town to Woltemade ; Eerste Rivier to Strand ; Bellville to Touws River, including Stellenbosch loop ; Umlaas Road to Pentrich, *via* Thornville ; Pretoria West to Capital Park, and short sections in the Witwatersrand area.

CANADA

C.P.R. Department of Research

It is stated that the Department of Research recently set up by the Canadian Pacific Railway (as briefly recorded in *The Railway Gazette* of March 30) is to be one of intensely practical research into all matters of railway operation. It will concern itself with the elimination of waste of both effort and material, and the development and improvement of facilities and services. (A portrait and biography of Mr. W. A. Newman, who has been appointed chief of the department, appeared in *The Railway Gazette* of April 13).

In announcing the inception of the department, Mr. W. M. Neal, Vice-President, C.P.R., said that it had been established with a view to meeting conditions such as were bound to arise in after-war days. From a world trade point of view, he said, Canadian industry then would find itself faced with the most severe competition yet experienced, and it was imperative that every possible effort be made by industrial organisations to modernise their facilities and methods of operation to meet that situation. Transportation was the vital factor in export trade, as in all industrial effort, and Canada's trade abroad would only be maintained or progress as the country's transportation served it with efficient and economical operation.

EIRE

Rail Shortage

To maintain its main lines, the Irish Transport Company (Coras Iompair Eireann) has been compelled to lift twelve miles of track from one of the temporarily-closed branches serving Shillelagh, County Wicklow. It is emphasised that this is purely an emergency measure, and is not to be taken as indicating a set policy in respect of branch lines in general, a number of which have been closed since April of last year on account of fuel difficulties.

The twelve miles concerned are between Aughrim and Shillelagh. The best possible road facilities are promised.

On account of the shortage of materials, the company has been able to relay during the last three years only one mile of track in a total of 2,600 miles. Before the outbreak of war, twenty-four miles of rail were re-laid annually.

CEYLON

Locomotive Firing

Until a few years ago two firemen were employed on each locomotive in Ceylon, but some time before the war, as a result of a policy of retrenchment, one fireman was dispensed with. This led to a decline in efficiency in firing and maintenance. Consequently, the need for employing a second fireman is now being reconsidered. In the long run, it is stated, the employment of a second fireman will also contribute to an improvement in train time-keeping and engine maintenance. The desirability of recruiting a better type of fireman is also receiving attention. The proposal is to employ these recruits as second firemen, apprenticed to head firemen to gain experience.

SWITZERLAND

Federal Railways Results

Preliminary figures concerning the financial results of the Swiss Federal Railways for 1944 show passenger receipts at fr. 222,000,000, or nearly fr. 30,000,000 more than for 1943. It is stated that receipts accruing from the fare supplements introduced in April, 1943, amounted to approximately fr. 31,000,000.

Goods receipts, at fr. 263,000,000, were lower by fr. 5,500,000 than those for the preceding year. Miscellaneous receipts were about fr. 18,000,000.

Total working receipts were fr. 503,000,000 (compared with fr. 479,000,000). Working expenditure, at fr. 335,000,000, was fr. 26,000,000 higher, largely on account of the all-round increase in the price of materials and higher wages.

The profit and loss account shows an approximate surplus of fr. 25,000, against a budget estimate of a loss of some fr. 68,000,000. The considerable improvement thus attained is stated to have been due to the favourable development of passenger and goods traffic, in addition to the fare supplements.

Large Seating Capacity in Set Train of "Six-a-Side" Compartment Stock

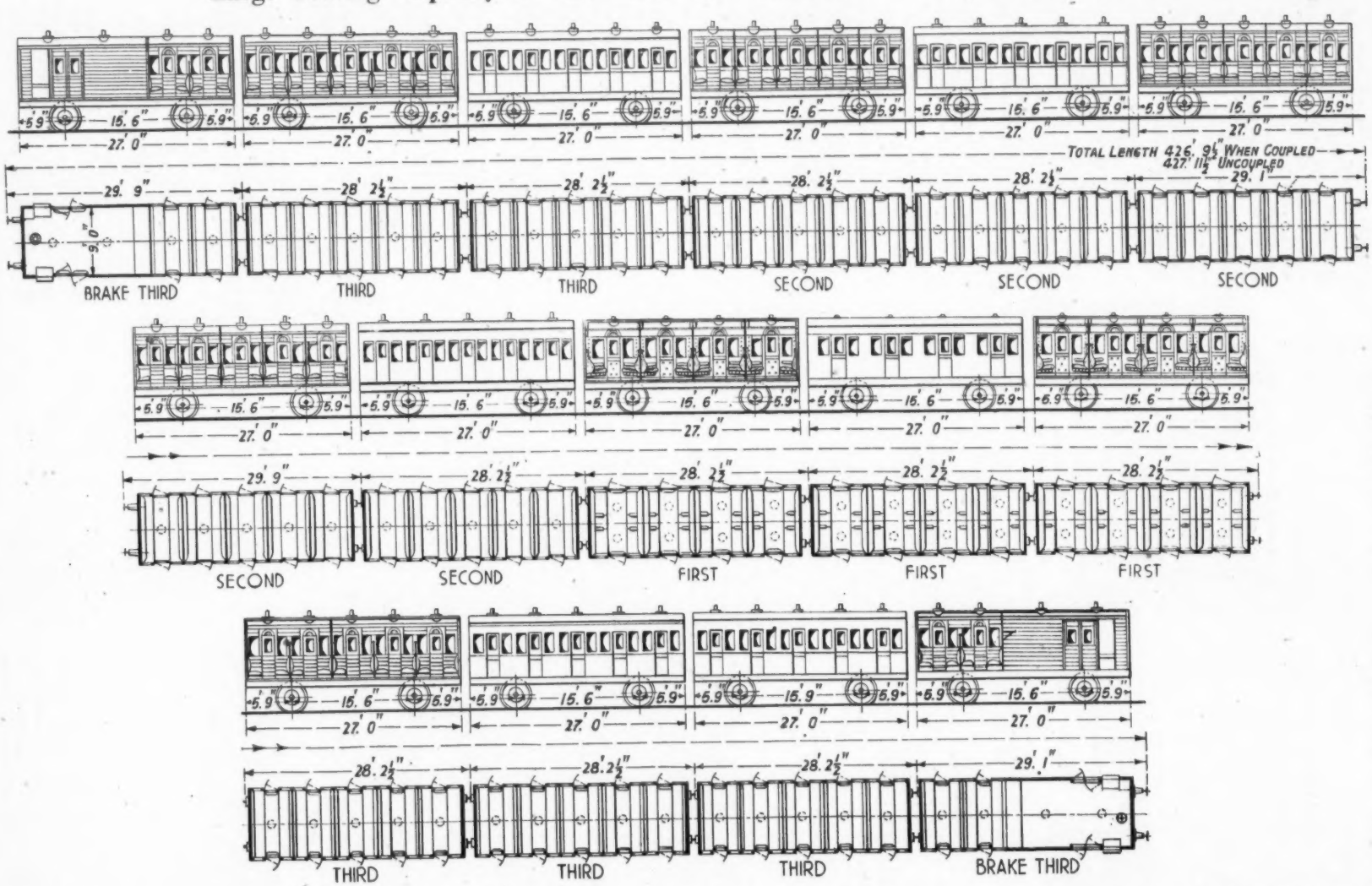


Diagram of set of 15 *four-wheel wide carriages constituting a suburban train of the old Great Eastern Railway. It was built at Stratford Works in* 1901, *and had a total seating accommodation for* 768 *passengers, consisting of* 120 *first class,* 300 *second class, and* 348 *third class. The first class compartments seated* 5 *a side; the second and third class seated* 6 *a side*

Post-Grouping "Six-a-Side" L.N.E.R. Articulated Suburban Train

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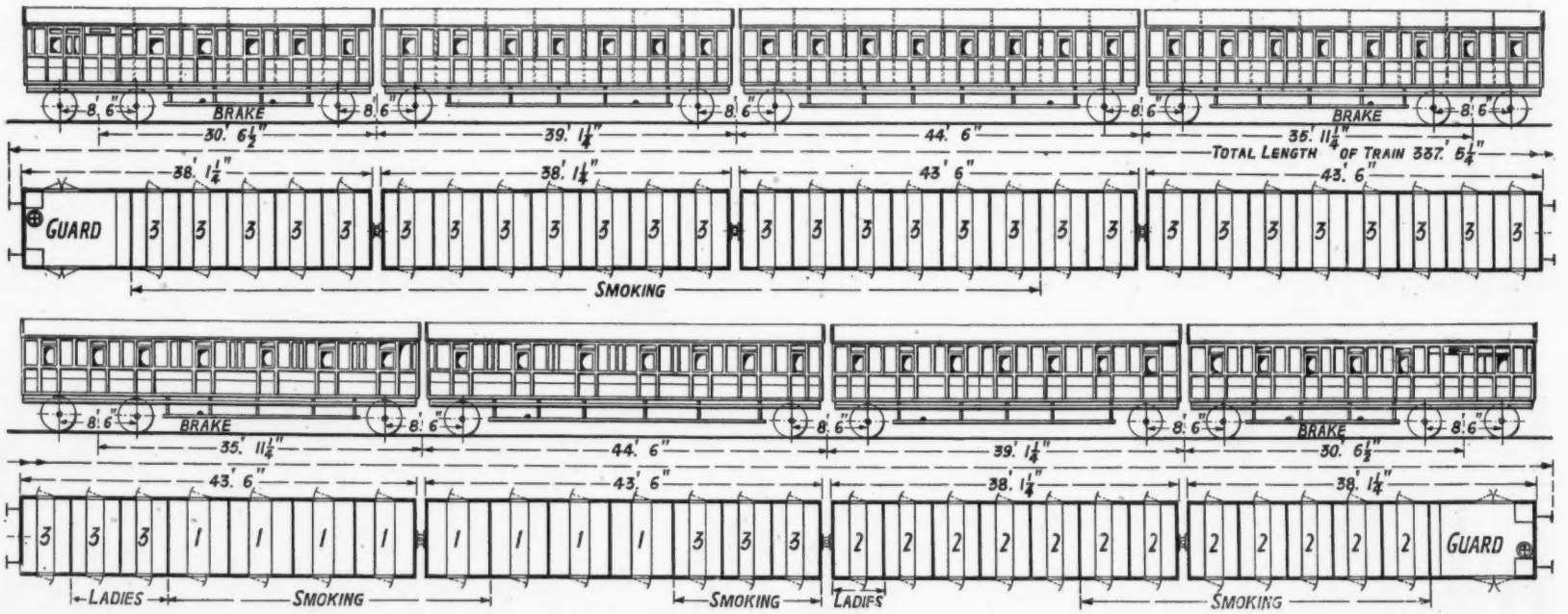
Post-Grouping "Six-a-Side" L.N.E.R. Articulated Suburban Train



L.N.E.R. suburban train of quadruple articulated carriages seating a total of 632 passengers. The seating accommodation of the 54 compartments is as follows: 8 first class compartments (5 smoking) at 10 passengers each equals 80; 12 second class compartments (7 smoking) at 12 passengers each equals 144; 34 third class compartments (21 smoking) at 12 passengers each equals 408. There were 14 set trains numbered 77 to 90 (inclusive), ten built between 1925 and 1929. The ten built between 1925 and 1927 had 8-ft. bogies, and the four built in 1928 and 1929 had 8-ft. 6-in. bogies as shown

Many interesting references have been made by correspondents in letters to the editor as to the use of compartment stock in former suburban railway practice. We reproduce herewith diagrams of experiments on the old Great Eastern and later on the L.N.E.R. for giving greater accommodation in such stock.

The set train of "Six-a-Side" compartment stock, which is illustrated on page 418, was brought into use on the old Great Eastern Railway. It was built at Stratford Works in 1901 to the designs of Mr. James Holden, the Locomotive, Carriage & Wagon Superintendent at that date. The carriages are of the 4-wheel type and are 27 ft. long over the mouldings. The wheel base is 15 ft. 6 in. The third class carriages have five compartments, but in the third class brake vans the space of three of the compartments is taken up by the guard's and luggage compartment. The carriages are 9 ft. wide, which is the maximum allowed by the loading gauge. The width of the seats is 8 ft. 6 in. as compared with 7 ft. 5 in. in the older carriages. The position of the footboards could not be increased because of the platforms. The doors are set back into the sides of the carriages so that the lock-handles come flush with the standing pillars.

	Compartment stock		Comparable train of L.P.T.B. "open" cars‡	
	Overall length	No. of seats†	No. of cars	No. of seats
Steam:	ft.			
District set of 9 four-wheelers, 1901	244	400	5	210
G.E.R. set of 15 four-wheelers* ...	430	768	9	378
L.N.E.R. 10-coach articulated bogie set*	450	888	9	378
Electric:				
L.M.S.R. 3-coach set*	184	288	4	168
Southern 3 coach set	194	250	4	168
,, 9 ,, unit	502	690	10	420
,, 4 ,, set* ("4101" class)	257	468	5	210

* "Six-a-side" stock. † On "all third" basis.
‡ On basis of cars 51 ft. long with 42 seats

In the older suburban carriages the accommodation provided was for 96 first class passengers, 250 second class, and 290 third class, or a total of 636 persons. By the process invented by Mr. Holden they were so widened that the first class could hold 120, or an increase of 24, the second class 300, or an increase of 50, and the third class 348, or an increase of 58, making a total, as against 636, of 768, or an increase of sitting accommodation for 132 people in each train of 15 carriages. That gave an increase of 21 per cent. The cost of conversion per coach was only £30, and Mr. Holden was able to convert two full suburban trains per month. The process of conversion went on for some time and when completed it was expected to provide 17,000 extra seats.

A Flexible Shaft Drive for Railway Carriage Electric Generators

Details of a German development

By R. H. P. Nott

THE following details may be of interest concerning the development in Germany of a new flexible shaft drive for the electric generators of railway carriages.*

In the case of the customary generator drive, power transmission is effected by a flat belt of rubberised fabric, the tension of which is kept constant automatically within the elastic limit of the belt. So long as the generator power is small, that is to say, required only for lighting, this drive is satisfactory under the usual climatic conditions, provided consideration is given to the need for periodical repair and replacement of belts. Satisfactory operation with a generator output of more than 3½ kW and in unfavourable weather conditions is not possible with this kind of drive because of slipping of the belt.

To a less extent, roller chain drives have been used. The rapid wear of chains and sprocket wheels, caused by the difficulty of providing adequate lubrication, militates against their general adoption. As the carriage axle is free to move in several directions relative to the bogie frame, it is not possible to make a fully enclosing chain case which will remain permanently sealed. Only such a case would permit the running of the chains in an oil bath, which is essential if a tolerable degree of wear is to be achieved.

For larger powers lighting generators occasionally have been built integral with the axle, involving the provision of specially ground bearing surfaces on the axle. Generally, drives which require an additional bearing surface between the wheels are on this account undesirable. With the introduction of roller bearings for carriage wheels lubrication of axles need no longer be carried out between major overhauls, which take place at intervals of 60,000 to 65,000 miles. Any bearings between the wheels could not be of the roller variety because of the normal method of assembling the wheels by pressing them on the axles. In consequence, one of the advantages of using roller bearings would be nullified. Hence the ideal drive should require no additional bearings between the wheels.

Operating Requirements

Summarising therefore, the operating requirements for the drive of train lighting generators can be stated as :—

(1) The drive should need no maintenance or external lubrication between major overhauls.

(2) Attachment to normal axles and axle boxes should be possible without the need for modifying any of the parts.

(3) The unsprung weight should be as small as possible.

(4) The transmission of torque from the axle to the generator shaft must be flexible and free from play so that wear of the transmission members shall be as small as possible.

(5) The transmission must take place elastically so that in the event of shock loading, such as can be caused by shunting, no failure will occur.

Description of the Drive

Bearing in mind these requirements the drive shown in Fig. 1 was developed.

In place of the axlebox cover, a bevel gear drive is flange mounted with the aid of a distance piece. From here a drive is taken through an intermediate shaft to the generator which is attached to the bogie frame. Between the axle spigot and the bevel gears an elastic coupling of oil-resisting Perbunan rubber is interposed. This coupling fulfils several functions: (1) it takes care of any mis-alignment between the carriage axle and the shaft of the drive unit; (2) it contributes to the elasticity of the drive; (3) in the event of damage to the gears or the generator the rubber fails and so constitutes a safety precaution.

The coupling is screwed to the carriage axle through a tapered key device, which in the case of roller-bearing axles engages with the existing transverse slot in the latter. The tapered key permits attachment independent of variations in the width of the slot. The larger bevel gear is secured to the coupling by four dowel pins which engage with holes on the driving side of the coupling flange. This flange is in four separate sectors, which are joined only by rubber. Thus the torque from the four dowel pins is evenly transmitted. The grease box of the axle roller bearing is separated from the drive housing by a labyrinth seal so as to prevent ingress of the thin gearbox oil into the greasebox. The bevel gears are provided with spiral teeth, which reduce running noise and considerably improve the shock resistance of the drive.

A tubular shaft with elastic couplings at either end transmits the torque from the gearbox to the generator. These couplings, made from an oil-resisting rubber based on Perbunan, are secured at their external circumference in housings to which they are bonded under a slight pretension. To achieve a rigid joint with the tubular shaft, the end of the latter is pressed into the bore of the rubber coupling with the aid of the conical bush shown in Fig. 1. In this way, and by means of three pins, which produce an additional deformation of the tube cross-section, the security of the coupling is ensured. This arrangement apparently has proved quite successful in place of the customary welded joint, which cannot be used here because of the presence of the rubber member.

A thrust piece is not provided on the shaft and is not necessary, because deflections up to ⅜ in., which can occur at the carriage axle relative to the bogie frame in the horizontal plane due to worn axlebox guides, are taken up by the couplings.

The generator is secured to the side of the bogie frame. Drive and generator are so inclined that, when the carriage is moderately loaded, the rubber couplings on the transmission shaft appear slightly stretched in elevation. It is evident that such a shaft with rubber couplings cannot cope with as large angles of deflection as can a carden coupling. But for the largest continuously permissible angle of about 3° satisfactory solutions to the problem, it is said, have been found in all cases.

From a vibration standpoint the trans-

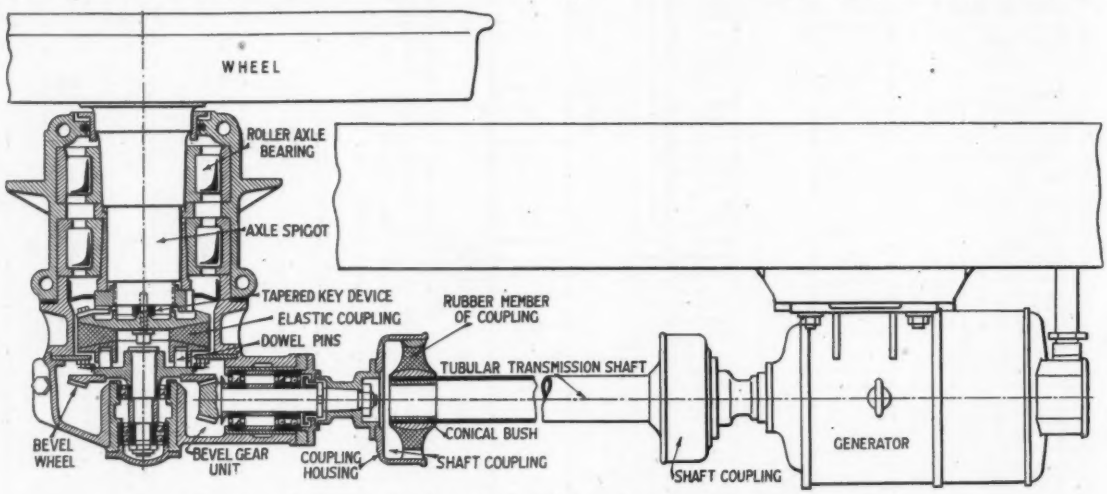
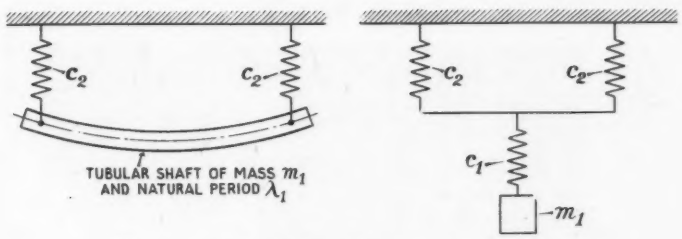


Fig. 1—Diagram showing shaft drive and generator on carriage bogie

* "Antrieb von Stromerzeugern für Eisenbahnfahrzeuge," by W. Kehse, Z.V.D.I., December 25, 1943



Figs. 2 and 3—Equivalent vibration systems

mission shaft corresponds to the system shown in Fig. 2. The tubular shaft of mass m, and natural period λ_1, which can be determined readily by well-known methods, is supported by the two springs each of stiffness c_2. To determine the resultant critical speed, the tube may be considered as being equivalent to a system having the same natural period with concentrated mass m_1 and a single spring of stiffness c_1, Fig. 3. The stiffness c_1 is given by

$$c_1 = m_1 \lambda_1^2$$

The natural period of the whole system is then from Fig. 3

$$\lambda \text{ resultant} = \sqrt{\frac{c_2}{m_1}}$$

from which

$$c \text{ res.} = \frac{c_1 . c_2}{c_1 + c_2}$$

which is the equivalent stiffness of the springs c_1 and c_2 arranged in series. From the foregoing also

$$\lambda_2 = \sqrt{\frac{c_2}{m_1}},$$

the natural period of a system with point mass m_1 and stiffness c_2. The natural period of the whole system is then obtained from the expression

$$\frac{1}{\lambda^2_{\text{res.}}} = \frac{1}{\lambda_1^2} + \frac{1}{\lambda_2^2}$$

and the critical speed of the shaft is

$$\eta_{\text{critical}} = \frac{30 . \lambda \text{ res.}}{\pi}$$

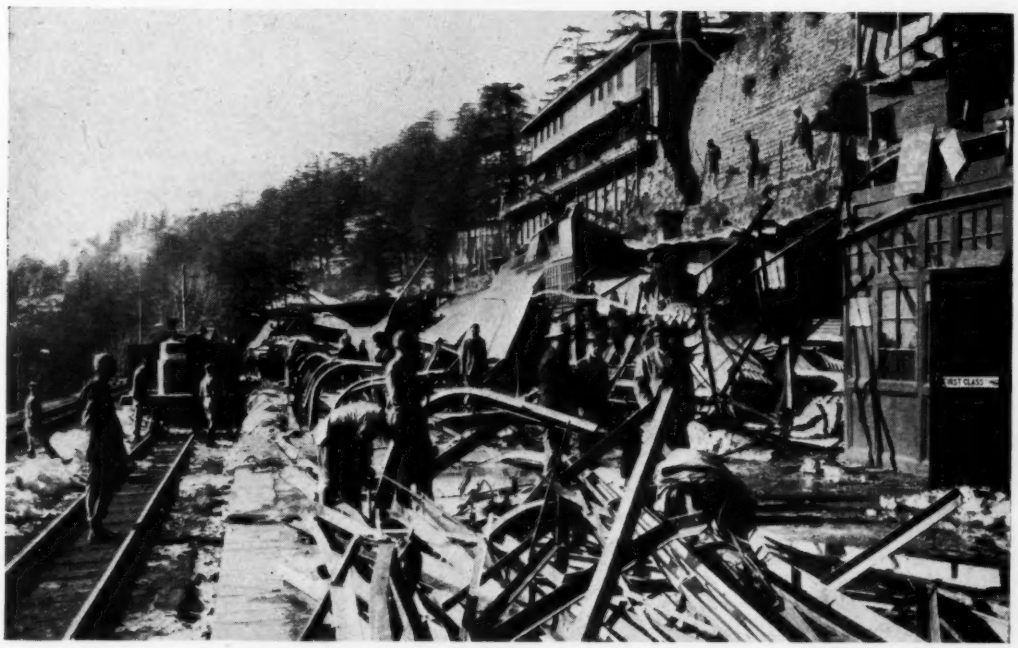
The procedure involved is therefore first to determine the natural period λ_1 of the tubular shaft in the usual way, followed by the natural period λ_2 from a knowledge of the tube mass and the deflection of the shaft coupling. The resultant critical value λ r.s. is then calculated from the expression already given.

The lower limit of the critical speed is given by the maximum speed of the carriage and the gear ratio of the drive. As the tube dimensions are virtually constant, the rate of radial deflection of the shaft couplings must be controlled. In practice the critical speed must exceed 3,500 r.p.m.

Running with an inclined shaft causes the couplings to heat up because of the conversion of internal energy, which depends on the internal damping properties of the rubber, the hardness of it, the rotational speed and the magnitude of the angle of deflection. From the point of view of critical speed the hardness of the rubber should be as great as possible, but in the interest of a minimum degree of heating the minimum hardness is desirable. Weighing these requirements one against the other resulted in the adoption of a hardness value which permitted in practice a shaft length of 5½ ft.

In the manufacture of the transmission shaft special attention is given to achieving a fine degree of balance. The balancing cannot be done on ordinary balancing machines because out-of-balance forces give rise to, respectively, deformation of the tubular shaft and deflection of the rubber couplings. Hence for the balancing operation the shaft must be run up to the neighbourhood of the critical speed in rigid bearings and stabilised by fixing suitable masses to it. It is said that, after being carefully balanced, the transmission shaft with rubber couplings runs close to the critical speed much more quietly than a shaft with ordinary cardan couplings, because it has no mechanical parts in motion relative to one another.

Snow Damage to Simla Station



Damage caused by 5-ft. of snow at Simla Station, N.W.R., India, in January, 1945. Oxy-acetylene equipment, on trolley, is being used to cut away girderwork

War Traffic on the Canadian National Railways

A powerful travelling crane unloading war supplies in one of the large assembly and forwarding yards of the Canadian National Railways. Efficient trans-shipment of vital products is an essential factor in preventing bottlenecks which would retard delivery from factory to fighting front

RAILWAY NEWS SECTION

PERSONAL

Central Argentine Railway Chairmanship

The directors of the Central Argentine Railway Limited announce that Mr. W. Howard-Williams, feeling that the time has come for a younger man to assume the responsibilities of the post, has tendered his resignation as Chairman, which his colleagues have accepted with reluctance. Mr. Howard-Williams remains a member of the board.

Lord Forres has been appointed to succeed him as Chairman.

Sir William Stanier (Consultant to, and lately Chief Mechanical Engineer of, the L.M.S.R.) is a non-official member of the Aeronautical Research Council, the membership of which was announced recently by the Minister of Aircraft Production.

On April 20, Sir William Stanier was received into Honorary Membership of the Institution of Mechanical Engineers. (*See also editorial note*).

In a pre-election reconstruction of the Federal Cabinet the Canadian Prime Minister has announced the resignation of five Ministers, who include Mr. J. E. Michaud (Transport). The new Minister of Transport is Mr. Lionel Chevrier. Mr. Michaud has been made Chief Justice in the Court of King's Bench in the Province of New Brunswick.

The late Mr. S. A. Parnwell, who was the last General Manager of the former Great Eastern Railway, and afterwards for a short period Divisional General Manager, Southern Area, L.N.E.R., left £21,646.

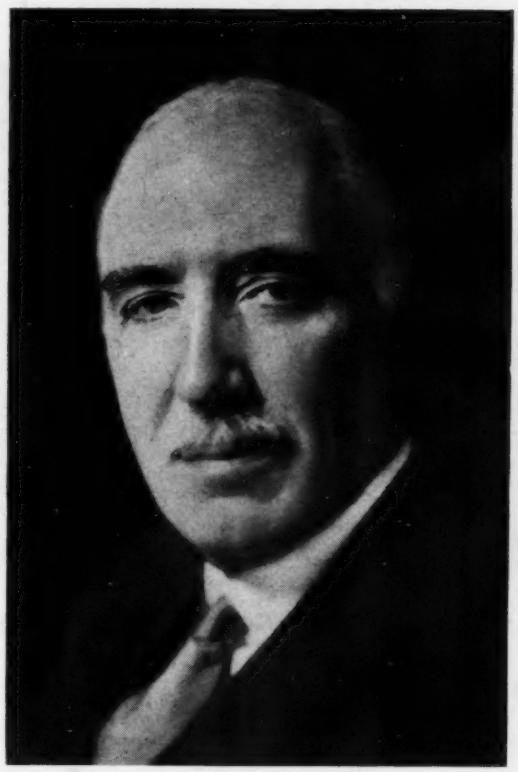
Army Awards

Among awards recently announced for gallant and distinguished services in North-West Europe are those of the C.B.E. to Brigadier R. F. O'D. Gage, M.C., late Royal Engineers; and of the O.B.E. to Lt.-Colonel A. G. Drake-Brockman, Royal Engineers. For gallant and distinguished services in Italy, Brigadier R. D. Waghorn, late Royal Engineers, has been made a C.B.E.

Mr. Gilbert Szlumper, on completion of his visit to South Africa, has returned to this country.

Funeral of Sir Gerald F. Talbot

The funeral of Sir Gerald Francis Talbot, who was a Director of the London & North Eastern Railway Company, the Cheshire Lines Committee, the King's Lynn Docks & Railway Company, and the English Electric Co. Ltd., took place on April 20. In addition to private mourners and other business and personal friends, the Chairman, Deputy-Chairman and directors of the London & North Eastern Railway Company were represented by Mr. George Mills, Divisional General Manager, Southern Area, L.N.E.R., and the Chief General Manager, Sir Charles Newton, by Mr. L. P. Parker, Locomotive Running Superintendent, Eastern Section, L.N.E.R.



Mr. Arthur Towle

Controller, L.M.S.R. Hotel, Refreshment Room & Restaurant Services, 1925-44

Mr. Arthur E. Towle, C.B.E., who recently retired from the position of Controller of L.M.S.R. Hotel Services, was born in 1878. He was educated at Marlborough College, and after leaving school spent several years travelling and gaining experience in hotel management in America and on the Continent. He entered the Midland Railway service in the Hotels Department in 1896, and in 1898 he and his brother, Francis, became Joint Assistant Managers under their father, Sir William Towle. In 1911 the brothers were associated directly with their father as joint managers, and on his retirement in 1914, they took over full control jointly. When Francis Towle retired in 1919, to become Managing Director of Gordon Hotels Limited, Arthur Towle became sole manager of the Midland Railway Hotels & Restaurant Car Services. In recognition of his services in the Ministry of Food in the last war he was made a C.B.E. When, consequent on grouping, the Midland became a constituent of the London Midland & Scottish Railway, for the first two years he continued as Manager of the Hotel Services of the Midland Section. Early in 1925 he was appointed Controller of the Company's Hotels & Restaurant Car Services for the whole of the system. An appreciation of Mr. Towle's work as a hotelier is given in one of our editorial articles in this week's issue. As showing how highly he stood in this sphere, it may be recalled that in 1936 the L.M.S.R. was invited, and accepted the task of running a *de luxe* restaurant at the Johannesburg Exhibition. Amongst other interests, Mr. Towle was prime mover in the School of Gastronomy in the Glasgow University. He is a Life Member of the British Hotels & Restaurants Association and Chairman of the Scottish Division. The Towle family has occupied responsible positions in railway hotel management for over 70 years. Mr. William Towle was Manager of the Midland Railway hotels from 1871 to 1914, and was knighted in January, 1920. The association continues in that Mr. Arthur Towle's son, Mr. Geoffrey A. Towle, still occupies the position of Controller's Assistant. As the official announcement, published in our January 5 issue stated, Mr. A. E. Towle, Controller, L.M.S.R. Hotel Services, retired on December 31, and Mr. F. G. Hole succeeded him as Hotels Superintendent, from January 1, 1945.

The late Mr. D. P. Ricketts, who was General Manager & Engineer-in-Chief, Peking-Mukden Railway, Chinese Government Railways, from 1911 to 1922, left £45,984.

Mr. E. Player, Technical Director of Birmid Industries Limited, has been appointed Joint Managing Director of that company, and of the Birmingham Aluminium Casting (1903) Co. Ltd.—a subsidiary. Mr. Player will act with Mr. Cyril C. Maudslay, who continues as Chairman & Joint Managing Director of both companies.

Mr. T. J. Somerville, late Permanent Way Shops Engineer (Railways), London Passenger Transport Board, has joined Arthur Balfour & Co. Ltd., of Sheffield, as Technical Railway Representative, in place of the late Major C. F. Tofts.

Mr. Harold Wright, Chief Metallurgist to Dorman, Long & Co. Ltd., Middlesbrough, has been awarded the Bessemer Gold Medal by the Iron & Steel Institute in recognition of his "valuable contributions made over many years to improve the technique of iron and steel manufacture."

Mr. Sidney Garcke has been elected Chairman of Dennis Bros. Ltd., in succession to Mr. N. P. Andrew, who has resigned that position, but remains on the board.

Sir Edward Wilshaw, First Warden of the Shipwrights' Company, has been installed as Second Master of the company. Sir Edward Wilshaw is Chairman & Managing Director of Cable & Wireless Limited.

We regret to record the death on February 24, in his 63rd year, of Mr. Charles R. Beall, Chief Engineer of the Union Switch & Signal Company of Swissvale, Pennsylvania, in the service of which he had been since 1910. During that period he had been prominently associated with many of the developments and inventions which the company applied to the improvement of signalling practice in America, and which have had a far-reaching effect. He was elected a Member of the Institution of Railway Signal Engineers in 1937, and had

long been associated with the work of the Signal Section of the Association of American Railroads.

Mr. W. A. Ingilby Emerson, A.M.I. Mech.E., M.I.Loco.E., who has retired from the position of District Locomotive Superintendent, Peterborough, L.N.E.R., entered the Doncaster Works of the old Great Northern Railway in 1897, as a premium apprentice. Afterwards he served for two years as a draughtsman before going to Colwick, Nottinghamshire, for outdoor experience. Later he returned to Doncaster as an Assistant in the Running Superintendent's Office, and then went to Colwick as Assistant Superintendent. In 1907 he was appointed Assistant Superintendent of the Hornsey Shed, and a year later was transferred to Peterborough as Assistant District Superintendent. Five years afterwards Mr. Emerson was transferred to Grantham as District Locomotive Superintendent; that district was amalgamated with Peterborough early in 1925, when Mr. Emerson was appointed Locomotive Superintendent of the combined districts.

Mr. W. A. I. Emerson

District Locomotive Superintendent, Peterborough, L.N.E.R., 1925-44

The Earl of Gowrie has joined the board of Siemens Bros. & Co. Ltd.

We regret to record the death on January 25 of Mr. L. B. Lever, who retired from the position of System Manager, Kimberley, South African Railways & Harbours, in January, 1943.

Mr. William Wells Graham, who inaugurated public service buses in Bournemouth in 1916, has announced his resignation from the position of General Manager of the Hants & Dorset Motor Services Limited, as from March 31. His resignation has been expedited by illness. Mr. Graham formed the Bournemouth & District Motor Services Limited on March 17, 1916, and the name of the company was changed in July, 1920, to Hants & Dorset Motor Services Limited.

Mr. Albert Edward Webster, A.C.I.S., Secretary & Traffic Manager of the Hants & Dorset Motor Services Limited, has been appointed to succeed Mr. Graham as General Manager, as from April 1. Mr. Webster has been with the company for 26 years.

We regret to record the death on April 14, at the age of 64, of Mr. John Evelyn Ryan, Hotels Superintendent, Southern Area, L.N.E.R. Mr. Ryan entered the Hotels Department of the former L.N.W.R. at Euston Hotel in 1900. Seven years later he was appointed to the control of the hotels and refreshment rooms of the old G.N.S.R., with headquarters at Aberdeen. In 1912 Mr. Ryan was appointed by the then N.B.R. to the control of its station hotels in Edinburgh and Glasgow, and refreshment rooms and restaurant cars. On the grouping in 1923 he became Hotels Superintendent for the whole of the Scottish Area of the L.N.E.R. Two years later he was appointed to the control of the Great Northern and Great Central Sections of the Hotels Department; and in 1932 the control of the hotels, refreshment rooms and dining cars of the Great Eastern Section was added to his responsibilities, when he was designated Hotels Superintendent, Southern Area. During the present war he has been a member of the R.E.C. Catering Committee. Mr. Ryan was brother to Mr. A. A. Ryan, who is Hotels Superintendent for the same company's North-Eastern Area. The funeral service was held at St. John's Church, Felixstowe, on April 17, and was conducted by Canon W. Cocks. Those present, in addition to family mourners, included:—

The late Mr. J. E. Ryan

Hotels Superintendent, Southern Area, L.N.E.R., 1932-45

Messrs. George Mills, Divisional General Manager, Southern Area, L.N.E.R. (also representing the Chief General Manager and officers of the L.N.E.R.); J. L. Meadowcroft, Assistant Hotels Superintendent, L.N.E.R. (also representing the Hon. Eric Butler-Henderson and directors of the company); Allan Hepworth; J. W. Ibberson and W. G. Ibberson, of Sheffield; Harold Ashley, Knebworth; A. C. Howes, Great Eastern Hotel, Liverpool Street; A. Gilberthorpe, Great Northern Hotel, Kings Cross (also representing Mr. W. H. Johnson, Secretary, L.N.E.R.); W. H. Mortlock, Hotels Accountant, L.N.E.R. (also representing Mr. L. C. Glenister, Chief Accountant, L.N.E.R., and staff); E. W. March (also representing the R.E.C. Catering Committee); H. G. Rampling, District Superintendent, Norwich, L.N.E.R. (also representing Mr. E. W. Rostern, Superintendent, Gerrards Cross, L.N.E.R.); S. W. Frost (also representing Mr. A. R. Dunbar, Acting Assistant Superintendent, (Eastern Section), Southern Area, L.N.E.R., and Great Eastern Amateur Athletic Association); R. E. Lawler, District Goods & Passenger Manager, Ipswich, L.N.E.R.

Mr. James Dunbar Michael, O.B.E., B.Sc. (Eng.), A.M.Inst.C.E., A.M.Inst.T., previously Secretary to the Railway Board, Government of India, who, on return from leave, has been appointed to officiate as Divisional Superintendent, Dinapore, East Indian Railway, was born on November 19, 1899, and was educated at Nairn Academy; George Watson's College, Edinburgh; Royal Military College, Sandhurst; and Edinburgh University. During the last war he served as a Second Lieutenant with the Seaforth Highlanders from August, 1918, to September, 1919. In 1922 he was appointed to the Indian Railway Service of Engineers, and was employed until 1924 on railway survey, and thence until 1927 on railway construction. He then was posted to the East Indian Railway, and became Assistant Superintendent, Way & Works Roorkee. In 1929 Mr. Michael was selected as Assistant Track Supply Officer & Assistant Sleeper Passing Officer, Lucknow, to assist in organising the then newly-formed Track Supply Branch. He became Assistant to the Deputy-Agent, Organisation, in 1933, and Secretary to the Agent in 1935. Three years later he was appointed Deputy-Director, Establishment, Railway Board, and in 1940 became Secretary to the Board, which post he held, during a period when the work of the Board increased considerably, until he proceeded on leave in April, 1944.

Mr. J. D. Michael

Appointed Officiating Divisional Superintendent, Dinapore, East Indian Railway

Mr. A. J. Lyddon, C.B.E., Chief Engineer (Roads), Ministry of War Transport, has retired, and has been succeeded by Mr H. E. Aldington, formerly Deputy Chief Engineer (Roads).

Mr. Norbert Merz, Chairman of A. Reyrolle & Co. Ltd., has retired, and has been succeeded by Mr. George Wansbrough, previously Deputy Chairman. Colonel B. H. Leeson, Director & General Manager, has been appointed Managing Director.

TRANSPORT SERVICES AND THE WAR—291

New Buses

The Ministry of War Transport expects that, if the war continues to follow its present favourable course, the following makes of public service vehicles may be available in small numbers towards the end of the year: Albion, A.E.C., Maudslay, Leyland. These will be in addition to the following makes now available, namely: Bedford, Bristol, Crossley, Daimler, Guy.

No New Motorcars for Civilians

Because of rumours that new motorcars can be obtained by permit, the Ministry of War Transport has announced that no new cars are available for civilian users, whether engaged on important work or not. There are a few reconditioned ex-Service cars being released to approved purchasers at controlled prices, but the demand greatly exceeds the possible supply. They can be allocated only to persons engaged on vital work whose existing cars are beyond repair.

Poplar Branch Closure

The Poplar branch of the L.M.S.R. was closed for passenger traffic from Monday, April 23. The following branch-line stations are closed both for passengers and parcels traffic: Hackney, Homerton, Old Ford, South Bromley, and Poplar. Bow Station is closed to passengers only; parcels collection and delivery services for the areas served by this station, and also for the stations above mentioned which are closed to parcels traffic, continue to be based on Bow. Alternative facilities for passengers are provided by the frequent road services of the London Passenger Transport Board between Dalston Junction and the areas formerly served by the branch-line stations.

Return Plans for Evacuees

A scheme for the return to the Greater London area of 500,000 evacuees has been prepared by the Ministry of Health, but it will not be put into force until the Government decides that it is safe for them to come back. There will be special trains, and it is expected that the first of these will run about one month after the signal to begin the scheme has been given. Only those who have housing accommodation available in their home areas will be given assistance to return at present.

Mothers with children will be brought home first, and, about 29 days after the Minister's signal, the first of their special trains will leave. Unaccompanied children will begin to return about a fortnight later. In view of the acute housing difficulties in London it is of the utmost importance that evacuees who have no adequate accommodation immediately available in the home area should be given no assistance or encouragement to return.

Irish Branch Line Rails Lifted

To meet urgent requirements for rails and fastenings for essential main-line track maintenance, the Irish Transport Company has lifted the rails of some 12 miles of line between Aughrim and Shillelagh. There are two intermediate stations, at Ballinglen and Tinahely. This is part of one of the branch lines that was closed to all traffic on April 24 of last year, when, because of fuel difficulties, it became impossible to maintain services throughout the whole system. The removal of the rails is not regarded as indicating a decision as to the future of these or other branch lines.

U.S. Coach Temperatures

From the beginning of February, at the request of the Association of American Railroads, many railways in the United States took steps to see that the temperature in railway coaches was not allowed to exceed 68° F., the aim of this reduction from the higher temperatures normally maintained being to conserve steam, and thereby to reduce fuel consumption. The temperature of 68° is the limit laid down by the Director of War Mobilization for the heating of public buildings and living space generally.

U.S.A. Black Markets in Tickets

On February 7 the Illinois Senate authorised the appointment of a committee to study alleged "black market" operations in the reservation of railway sleeping car accommodation. The Senate action was proposed in a resolution by Senator Libonati, who alleged that outside agents, working in conjunction with railway employees, were obtaining sums up to $5 for the reservation of an upper berth, $10 for a lower, $25 for a "roomette," and $50 for a "drawing room." It is intended to call as witnesses 400 past and present railway employees, and the full powers of the State Senate in regard to contempt of court are to be used against any of those called who refuse to testify. The hearings began on March 10 with the examination of 15 voluntary witnesses.

In previous attempts in Chicago to deal with this abuse, the railways have enlisted the services of two detective agencies, and have had assistance from the Federal Bureau of Investigation, but as yet have failed to bring any illegal activities to light. The increasing demand for accommodation, however, continues to encourage black market activity. On February 3, four convictions of "black market" ticket sellers were obtained in the Federal District Court at Miami, Florida; the persons concerned were fined $1,000 each, and one received in addition a sentence of 18 months' imprisonment. Five similar indictments have been returned in St. Louis, and a number of investigations is proceeding in various parts of the country.

U.S. War Department Takes Over Another Railway

Another strike of American railwaymen has been rendered ineffective by the United States Government taking over the operation of the line concerned on the day that the strike began. The railway concerned is the Bingham & Garfield, a small line in Utah which derives its importance from serving the mines, ore concentration plants, and smelters of the largest copper-producing plants in the U.S.A., as well as certain producers of lead and zinc. Among its motive power units, the B. & G. owns three electric shunting locomotives, which are used in the shunting yards at Bingham Canyon, Arthur, and Magna. The longest distance travelled by each is from ¼ to ¾ mile; speeds range from 8 m.p.h. to a maximum of 12 m.p.h.; and no public highways are crossed. For these reasons the railway has considered it adequate to man these shunters with a motorman apiece, but no helper.

The Brotherhood of Locomotive Enginemen & Firemen, however, among various demands made recently on the B. & G. management, claimed that each of these motormen must be allowed to have a helper on the footplate. The reasons advanced for this demand were that safety required it, that the motorman's work was monotonous and he had no one to talk to while on duty, and that the helper could relieve the motorman from time to time and so allow him to rest. On safety grounds the railway claimed that during the past 20 years it had moved 350,000,000 tons of ore with these locomotives without any accident that could have been avoided by the use of helpers. Mediation having failed, the late President Roosevelt appointed an emergency board which upheld the railway decision in this matter, and on January 25 there was a strike of 37 drivers and firemen employed by the Bingham & Garfield. Colonel Wallace H. Hastings, as representing the War Department, immediately took charge under instructions from President Roosevelt, and operation of the line is being continued under Army direction, with one man only in the cab of each of the locomotives concerned. The interruption of service lasted for 6 hr. only.

Motor Vehicles in Denmark

Motor vehicles in operation in Denmark on September 30, 1944, totalled 20,257 lorries; 2,603 motor vehicles belonging to the police, fire brigades, and similar institutions; 920 motor coaches used in regular traffic; 2,314 taxicabs; 4,196 other passenger cars; and 204 motorcycles. All vehicles belonging to the police and fire brigades were operated on petrol. Gas producers were used to operate 19,331 lorries, 867 motor coaches, 2,297 taxicabs, and 1,150 other passenger cars. The monthly average consumption of petrol during the third quarter of 1944 amounted to 600,000 litres, compared with a monthly average of 500,000 litres during the second quarter of 1944.

Franco-Swiss Railway Traffic

As a result of a Franco-Swiss railway conference held in Paris, which was concluded on March 24, passenger railway traffic between France and Switzerland is to be improved from May 7, when the summer timetables are introduced in both countries. It will not be extended to lines other than those used at present for passenger trains (Les Verrières, Vallorbe, Geneva Eaux Vives Station, and Geneva Cornavin Station). The last-named traffic is still to be diverted *via* Annemasse until repairs to the Pyrimont Viaduct are completed.

Resumption of the traffic between Paris and Berne *via* Troyes, Belfort, and the Franco-Swiss frontier station of Delle (in north-western Switzerland) is intended as soon as the many bridges destroyed or damaged on this route have been repaired temporarily. It is believed that this will be possible by July 1 next. Through coaches between Paris and Berne are envisaged. The heaviest damage on this route is where the line crosses the Rhône-Rhine Canal between Belfort and Delle. It is also believed that the direct train service between Paris and Geneva Cornavin will be resumed by the same date. On the other hand, it is not yet known when it will be possible to make a start on the Besançon—Morteau—Le Col-de-Roches—Le Locle line.

Reconstruction of Pyrimont Viaduct

One of the main obstacles to the resumption of direct railway services on the Lyons-Geneva main line is the Pyrimont Viaduct on the Culoz-Bellegarde section, close to Pyrimont-Chanay Station, 7 miles to the south of Bellegarde. This viaduct was blown up by the French Patriot Forces in the course of the campaign of intensive railway sabotage against the Germans in the Savoy region described in *The Railway Gazette* of August 4, 1944. The reconstruction of this important viaduct was taken in hand some time ago, but the work is progressing slowly. All train services from and

to Geneva Cornavin Station have to be diverted at Bellegarde *via* S. Julian and Annemasse, to be worked over the Aix-les-Bains line.

Swiss Transit Traffic Through France

It was stated officially at the beginning of March that Toulon is to be the French port allocated to Swiss goods traffic in transit through France. Hopes are being entertained in Switzerland that this new and shorter route will ease the Swiss supply position, for the present railway route for Swiss goods in transit is very circuitous. It has been made available as a result of an agreement concluded between the authorities concerned at the end of February, although certain goods trains had been worked intermittently before then. The route connects the French frontier station of Cerbère, on the Spanish border, with Geneva, but, as the main lines in southern France are reserved for Allied traffic and the Culoz-Bellegarde main line is still obstructed and under repair, the trains are routed as follow : Cerbère, Nîmes, Peyraud (on the main line to Lyons, west of the River Rhône), whence the connecting link across to St. Rambert-d'Albon (east of the Rhône) is used. From there, the trains go south as far as Valence, whence the route is *via* Moirans, Grenoble, Aix-les-Bains, Annemasse, and Bellegarde, to Geneva (Cornavin). This roundabout route is 533 miles long, compared with 436 miles by the direct Cerbère-Lyons-Geneva route.

The Toulon-Geneva route *via* Grenoble and Annemasse, is only 384 miles long and will be slightly shorter once the section Culoz-Bellegarde section is reopened.

Because of the shortage of goods wagons and locomotives in France, only Swiss rolling stock and locomotives are used for these trains, and it takes a train some 10 days to a fortnight to cover the distance in one direction. If one train a day is worked, the volume of goods which Switzerland will be able to import over this route will be in the neighbourhood of 15,000 metric tons a month. Before the war Switzerland imported nearly 7,500,000 metric tons per annum over all the railway routes then available ; about 12,000 goods trains were required to handle the traffic.

To expedite the conveyance of goods to Switzerland which have been accumulating in Lisbon during the months when railway traffic between Portugal and Switzerland was discontinued, the Portuguese railways agreed recently to attach three wagons loaded with consignments for Switzerland to all regular passenger trains between Lisbon and Marvão, the Portuguese frontier station on the line to Valencia de Alcantara-Madrid-Barcelona and Port-Bou (for Cerbère). This will facilitate the formation at Marvão of Swiss block trains for Cerbère. At present, there are but two daily passenger trains between Lisbon and Marvão, a semi-fast and a stopping train. In addition, there is a fast train thrice weekly.

An agreement was concluded between the Allied delegations and Switzerland on March 9 regarding opening of the Toulon-Geneva route for the Swiss transit traffic through France. It is the shortest possible route, and this is of considerable importance as the coal for the operation of these trains must be supplied by Switzerland. As the coal mined in Switzerland is not suitable for locomotive working, the coal needed is to be diverted from the consignment due at Toulon for Swiss use. Three goods trains daily in each direction, each of 600 *tonnes*, are to be worked on the Cerbère-Geneva route for the conveyance of commodities accumulated in Portugal and Spain. For the Toulon-Geneva route, two goods trains a day in each direction, each of 200 metric tons, are envisaged. On this basis of 2,200 metric tons a day, imports into Switzerland over the two French routes concerned should total 792,000 metric tons a year, compared with the 7,418,000 metric tons a year which was the pre-war average.

The "Toot Sweet" express of the U.S.A. Second Military Railway Service, the inauguration of which was announced on January 29 (see our February 23 issue. page 190). It works from Cherbourg through Paris to supply points in Belgium. and has been extended to Germany. It is composed of 20-ton box cars assembled in England

When delegates of the French National Railways and the Swiss Federal Railways met in Paris on March 22 to discuss problems connected with the railway services between the two countries, one of the main objects to be settled was the working of the Swiss goods transit services through France. The Berne agreement of March 9 between the Allies and Switzerland provided for three trains a day between the Spanish frontier and Switzerland. Implementing this agreement, Cerbère, Canfranc, and Hendaye have been chosen as departure stations for the trains carrying goods in transit from Spain.

Rail and Road Reconstruction in France

A central office dealing exclusively with the reconstruction of railways and roads in France has been set up in accordance with the provisions of an Order of October 28, 1944, and has been attached to the Ministry of Transport & Public Works. It is called the Service central de reconstitution des voies de communications. Its principal tasks are defined as follow :—

1.—To formulate reconstruction programmes for the railways and roads, and to supervise the work ;

2.—To control the distribution of the materials necessary for the work ;

3.—To act as representative of the Ministry of Transport & Public Works in dealing with the Import Commission (Commission des Importations) ;

4.—To secure the co-operation of the Allied authorities in the rehabilitation of railways and roads, for which purpose the office will be headed by the General Delegate for Inter-Allied Relations (Délégué general aux relations interalliées).

Official French indications giving a picture of the widespread devastation from which the French railways have suffered state that on September 15, 1944, no fewer than 71 out of the 130 principal railway depots in France were still unserviceable, and so were 24 of the 40 large marshalling yards, 115 of the 322 main railway stations, 570 important signal boxes, and 1,965 bridges. Many tunnels in Central France, mainly in the Auvergne region, in south-eastern France, and in the mountainous areas to the west of Switzerland were blown up by the Germans. The reconstruction of these tunnels is absorbing large quantities of materials, takes much time, and requires a considerable volume of labour urgently needed for other purposes. Many double-track lines, like those from Aix-les-Bains to Annemasse and Bellegarde, or from Dijon to Les Verrières and Vallorbe, have had only one track rehabilitated, and in a temporary way permitting axle-loads of only 12 metric tons, compared with 20 metric tons before the war. By December 15 last, 1,244 bridges in all had been repaired temporarily.

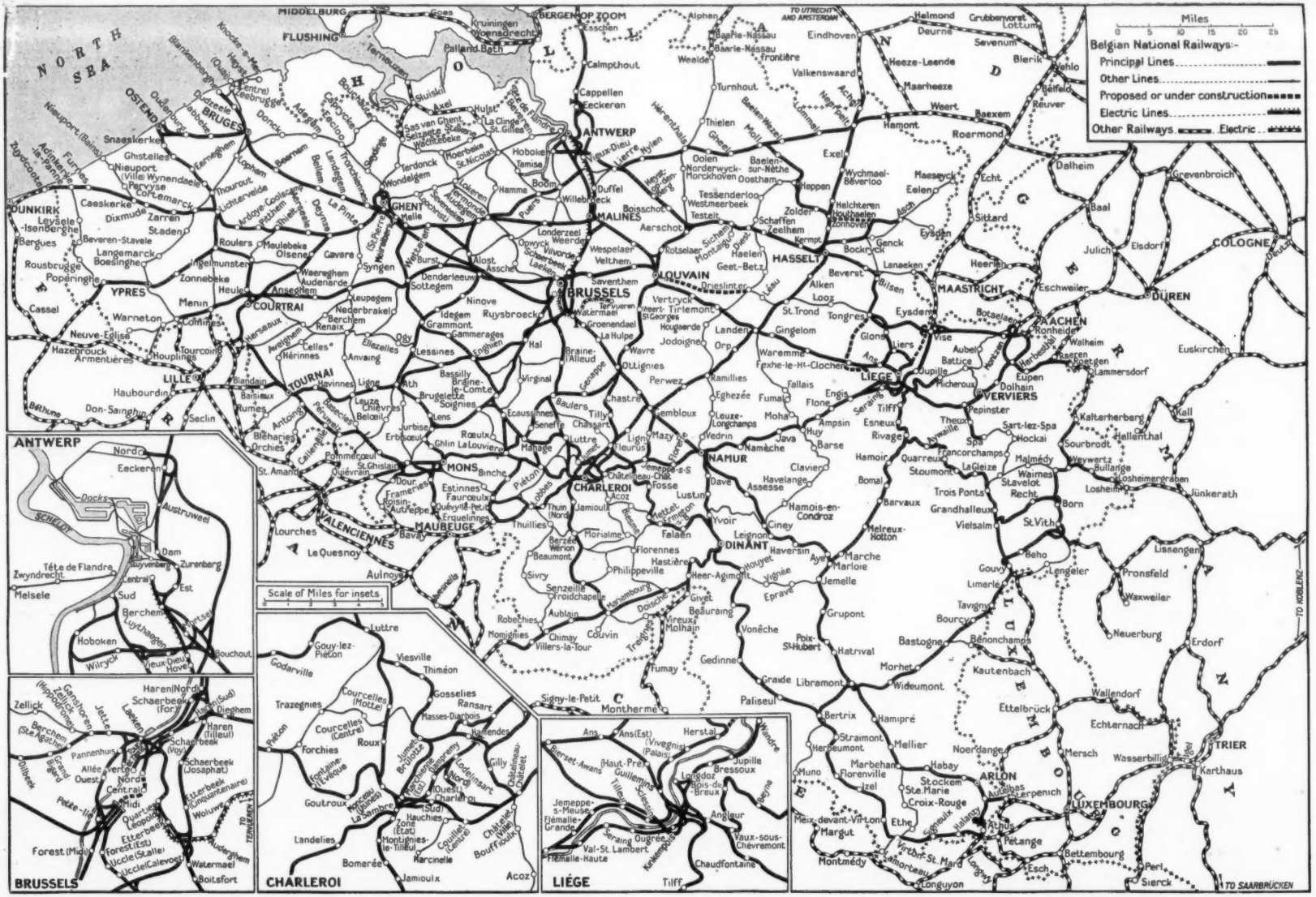
Railway Development in Mongolia

Recent Japanese plans for railway extensions in Mongolia have been influenced by the desire to effect the expeditious movement of high-grade coal and iron ore and other mineral resources. In Suiyuan, Shansi, and Chahar extensions to already existing railways have been constructed, notably on the Chifeng to Tolun (Dolun Nor) and Kalgan trunk line, approximately 490 km. (305 miles) in length, in Chahar and Jehol Provinces. Conflicting statements have been made as to how much of this line is working ; if and when it is completed it will provide a third rail link between North China and Manchuria. Probably the line is now in operation, partly under construction forces.

Another line of potential importance now stated to be under construction is the Tatung-Tangku trunk railway from Tatung to Fengtai, a few miles south-west of Peiping (Peking), at which point connection is made with the Peiping-Liaoning railway serving the ports of Tangku and Chinwangtao.

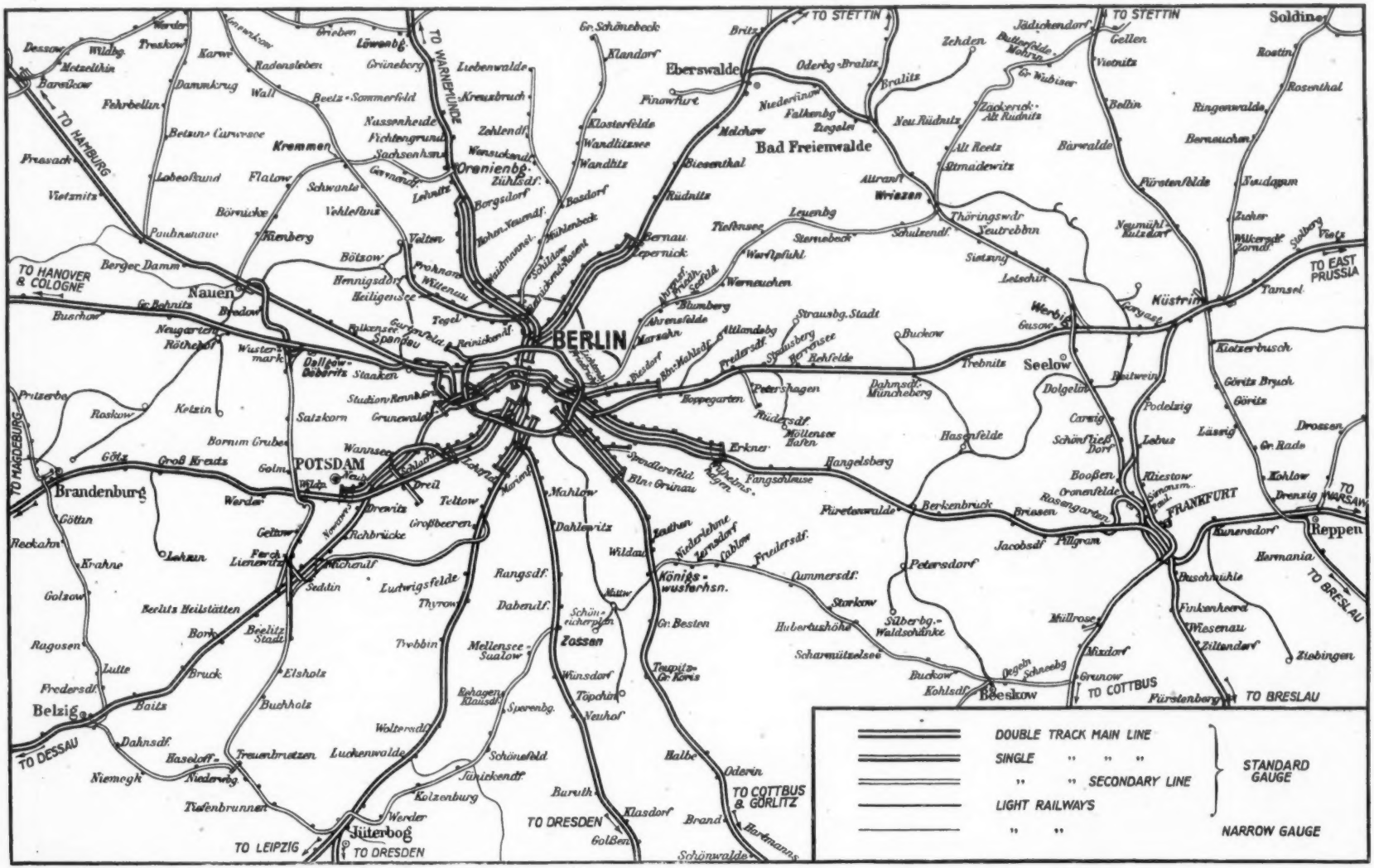
In Suiyuan, extensions have been completed to Shihkuatzechieh, a coal-mining region north-east of Paotow, and to Pailingmiao (a caravan centre) and Hsikungchiwangfu, about 37 miles west of Paotow. Camel caravans bring to railhead large quantities of sheep wool, goat hair, camel hair, and furs from western Suiyuan and north-eastern Ninghsia.

Another short but useful railway developed by the Japanese is the Hsuanhua-Lungkuan branch of the Peiping-Suiyuan line which serves the Lungyen iron mines near Chaochuan, and which was completed in 1943 to Lungkuan in northern Chahar Province.



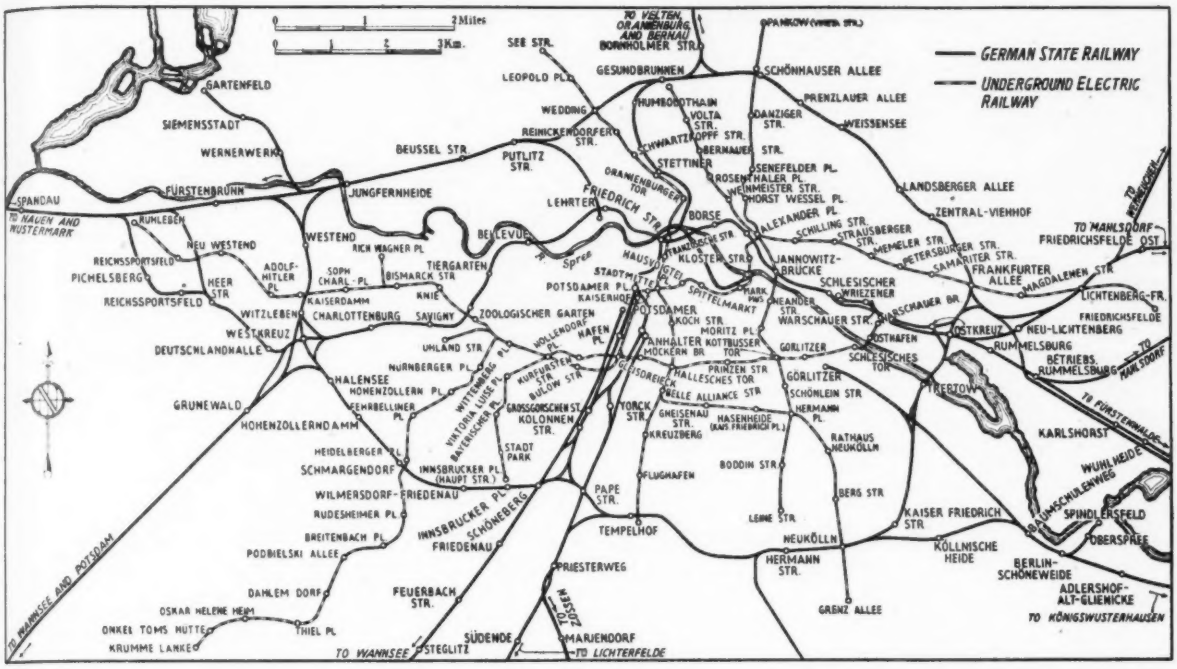
A new map of the railways of Belgium, revised in accordance with the latest information available in this country. The Belgian National Railways system provides important links in the Allied lines of communication between the French and Belgian ports and the Western Front

The Railways of the Berlin Area



Track plan of the German State Railway network around Berlin. For the inner area see the map on the facing page, which shows also the Berlin municipal underground (U-Bahn) system

Main-Line and Local Railways in the Inner Berlin Area



The railways of Berlin, as modified by developments (other than Allied air attack) since the outbreak of the war. The suburban services on the German State Railway lines (mainly electrified) are known as the S-Bahn (Stadt, Ring, & Vorortbahnen), and the municipal underground electric railway as the U-Bahn

Railway-Associated Air Services

The summer timetables of the railway-associated air transport companies, which came into operation early this month, have some interesting features and indicate that gradual improvements in the wartime internal air services are taking place.

London-Prestwick

The timetable of Railway Air Services Limited, which came into force on April 9, includes a new service in each direction on weekdays between London (Croydon) and Prestwick. This service, which is the first civil air service linking London with Scotland since the outbreak of war, is intended primarily for trans-Atlantic passengers arriving at or leaving from Prestwick Airport, Ayrshire. The departure time from Prestwick is 9.40 a.m., and from Croydon 2 p.m. The actual air journey takes 3 hr. 40 min.

The London-Liverpool service, which has been in operation since November last, has been re-timed. It now leaves Croydon at 9.15 a.m. and is due at Liverpool at 10.55 a.m. The return service leaves Liverpool at 3.15 p.m. and is due at Croydon at 4.55 p.m. Air passengers to and from Belfast, the Isle of Man, and Dublin connect with the London service at Liverpool.

The services between Liverpool and Belfast have been increased to four in each direction, and between Glasgow and Belfast to three in each direction every weekday.

Scottish Airways

Apart from the London-Prestwick service, which is operated by Railway Air Services in collaboration with Scottish Airways Limited, the summer timetable of Scottish Airways (also effective from April 9) announces the introduction of a direct service between Glasgow and Stornoway on Tuesdays, Thursdays, and Saturdays, leaving Renfrew Airport at 11.30 a.m. The service in the opposite direction leaves Stornoway at 2 p.m. on the same days of the week. The journey takes two hours.

The service between Inverness and Stornoway which operated during the summer of last year is reinstated with a thrice-weekly service in each direction. The regular routes from Renfrew to Campbeltown and Islay, and to and from Tiree, Benbecula, North Uist, and Stornoway, are still in operation.

Liverpool-Dublin

Although travel restrictions to and from Eire limit the demand, West Coast Air Services Limited, in conjunction with the Irish Air Lines, is maintaining two services each weekday between Liverpool and Dublin. The air journey is made in 1 hr. 20 min. The joint summer timetable came into force on April 2.

Isle of Man Air Services

The frequencies of the service between Liverpool and the Isle of Man, maintained by Isle of Man Air Services Limited, have been increased from April 2 to four in each direction every weekday. Flying time is one hour by this service, which has proved to be one of the most popular air lines in the country.

Scilly Isles Services

Great Western & Southern Air Lines Limited, in association with Railway Air Services and Olley Air Service, continues to maintain three journeys each weekday in each direction between Land's End and Scilly Airport. The air journey takes but 20 min., and the timetable which was introduced on October 2 of last year continues unchanged until further notice.

Prohibiting U.S. Coal Movement.—The Solid Fuels Administration of the United States has served notice on all concerned that during the summer of 1945 it will prohibit the movement by vessels on the Great Lakes of coal intended for use as locomotive fuel. In 1944, approximately 3,000,000 tons of coal mined in Bituminous Production Districts Nos. 1 to 8 inclusive (which cover Pennsylvania, West Virginia, Virginia, Ohio, Michigan, and eastern Kentucky) were carried in Great Lakes vessels for locomotive use on railways west of the lake region, and it is considered that the railways concerned should be able to meet their needs from the mining areas in the Middle West. An additional reason for the embargo is the continuing shortage of coal mined in Districts Nos. 1 to 8. No exemption from this ruling will be permitted unless an application direct to Washington shows that war production would be hampered by the prohibition. The Solid Fuels Administration is also taking steps to determine which industrial consumers at present supplied with coal from the eastern pits by lake steamers could accept as substitute coal mined in the Middle West.

Westinghouse Brake & Signal Co. Ltd. War Products Exhibition

Towards the end of 1943, it was realised that the large majority of the Westinghouse Brake & Signal Co. Ltd. employees, whose war work had been a long and strenuous period of monotonous repetition on small parts, had little idea of the ultimate purpose or importance of their efforts. The company therefore decided to stage a private exhibition of its war products then passing through the factory, with a view to creating for these workpeople a new interest in their work, despite the fact that the output was actually increasing at the time. The exhibition, which was held in the works canteen, was visited by members of the Services, the Ministries and production committees, and so forth.

Many of the company's normal products of types familiar to railway engineers were exhibited; for the Ministry of Supply the company has manufactured to date 493 air brake sets for ambulance trains, 1,240 sets of brake equipment for austerity locomotives, consisting of air compressors, governors, driver's brake valves, feed valves, and so on, 4,500 vacuum brake sets for tank wagons, war flats and bogie well wagons, air brake parts for Chinese National Railways, together with large quantities of railway signalling equipment of various types, including mechanical signalling equipment using 1,800 apparatus levers, and 260 Neale's block token and tablet instruments.

Apart from the very large numbers of specialised items of equipment delivered to the Admiralty, Air Ministry, and Ministry of Supply, impressive figures are provided by the metal rectifiers manufactured. Because of the many and varied purposes for which they have been and are still being used on war service, they have found their place in every theatre of war —on aerodromes, in every type of aircraft, in tanks, in signalling and tele-communication, as well as in every branch of war industry itself. They vary in output from a few microwatts to many kilowatts. The number of rectifier elements produced, to the beginning of 1945, reached 115,000,000, and completed sets amounted to 76,500. In these sets were included transformers and chokes, also made in the same factory, to a total of over 120,000, in the manufacture of which 1,625 tons of electrical steel sheets were used for laminations, and the weight used of copper wire of various gauges and coverings was over 500 tons.

The variety of the work performed was made possible by the scope of the company's pre-war business, which called for the manufacture of compressed-air and vacuum brakes; mechanical, electrical and electro-pneumatic signalling for railways; air brakes for road vehicles; metal rectifiers and other electrical equipment, etc., to meet the varying needs of users in all parts of the world.

Staff and Labour Matters

Crewe Rolling Stock Staff Hours

The Chairman of the Railway Staff National Tribunal recently has issued his award on a claim submitted to him by the Railway Clerks' Association that the hours of duty of the freight rolling stock section, Office of Divisional Superintendent of Operation, London Midland & Scottish Railway Company, Crewe, which have been increased from 38 to 48 a week, should be restored to what they were originally, and that the staff should be paid at the overtime rate for time worked in excess of 38 hours a week.

The claim was presented to the Chairman, assisted by Mr. O. W. Cromwell, nominated by the railway companies, and by Mr. P. Morris, J.P., nominated by the Railway Clerks' Association, as assessors, at a hearing on March 26, 1945, at which Mr. C. N. Gallie represented the Railway Clerks' Association and Mr. S. H. Scholes represented the railway companies.

The national agreement for railway male clerical staff provides that the ordinary working hours of duty shall not exceed 48 hours a week, and that in any office where the working hours at August 1, 1919, were less than 48 a week they shall not be increased. The national agreement for railway control staff contains a similar provision.

It was contended by the Railway Clerks' Association that the increase in the volume of work performed by the freight rolling-stock section has not changed the kind of the work nor resulted in a new organisation being set up; that the re-designation of the staff as controllers does not justify the hours of the office being increased from 38 to 48 a week; that where an increase in the volume of work requires extra working hours such increase should be met either by increased staff or by payment for overtime worked beyond the ordinary rostered hours; and that the 38-hr. week formerly in operation in the freight rolling stock section existed in accordance with the terms of the national agreement and accordingly the ordinary hours of duty of the staff of the section should remain 38 a week.

It was contended by the railway companies that, to meet the greatly increased commitments caused by war conditions, it has been necessary to change considerably the organisation and methods for dealing with the distribution of freight rolling stock; that accordingly the section of the organisation of the Divisional Superintendent of Operation at Crewe, which is responsible for the distribution of rolling stock, warrants the personnel employed therein being designated controllers and assistant controllers with a standard working week of 48 hours; that before the war the freight rolling stock section dealt only with the distribution of railway-owned wagons, whereas since the outbreak of war the distribution of pri-

Westinghouse War Production on Show

General view of the Westinghouse works canteen in which the exhibition was held of war products manufactured by the company

vately-owned wagons has had to be undertaken; that conditions relative to the movement of traffic have changed considerably because of wartime circumstances; that the changed conditions have required not only the employment of more staff but a much closer interest and part in operational movement than was formerly the case; and that alterations in policy and procedure to meet war conditions have required not a mere alteration in nomenclature by the substitution of controllers for clerks, but in effect the setting up of a new office.

The Chairman finds that in the circumstances of this case the claim made has been established and he so awards with effect from the first pay day following April 13, 1945.

Signalling Single Line Stations

At a well-attended meeting in London, on April 18, of the Institution of Railway Signal Engineers, Mr. R. S. Griffiths, Past President, read a paper on the signalling of single-line stations, illustrating it with a series of lantern slides depicting examples taken from 16 countries, the leading features of which he outlined. The President, Major R. Falshaw Morkill, was in the Chair and, in introducing the author, spoke of the interest the question of single-line working could have for signal engineers and operating officers.

The discussion was opened by Mr. A. W. Woodbridge, who spoke of the wide scope of the paper and dwelt on the importance of considering traffic conditions when taking any particular layout into account. Some represented expensive arrangements, but they might be justified in certain circumstances. In some cases high-speed point layouts would be needed to allow of speeds up to 40 m.p.h., and outer home signals often would be essential. As a rule their branch-line traffic in this country did not call for two-way working on loops, but the war and sometimes holiday traffic made it necessary.

Mr. O. S. Nock drew attention to the working in force on a 35-mile length of the N.C.C. section of the L.M.S.R. in Northern Ireland, where the main line was arranged without turnouts, allowing non-stop trains to pass at speed, giving the fastest booked speed, 50 m.p.h., start to stop, on a single line route in the British Isles. At Coleraine 3-aspect light signalling was used. Mr. W. S. Roberts, in a communication, referred to the single-line working adopted when the former Midland Great Western line in Eire was converted from double, the question of using isolating points and the prevention of access to a single-line section until the relative token had been obtained.

Mr. G. H. Crook, Past President, regarded the paper as a challenge to the methods used in this country. Traffic on most of our single lines was not what it was years ago, when the Board of Trade was responsible for issuing requirements. Road competition had changed the character of many routes. The advantages of the different layouts depended on many things, and there was, he thought, little wrong with ours when our traffic conditions were considered. Speaking of practice in Australia, with which he had much to do at one time, he pointed out that generally the principles advocated in the paper were followed, but each railway had to settle what suited it best. The running of through fast trains called for special consideration, as did the layout of single-line junctions.

Lt.-Colonel E. Woodhouse thought both-way working at loops had great advantages, especially where slow freights were overtaken by passenger trains. Mr. G. W. R. Strickland mentioned the simplex and the List and Morse interlocking —later supplemented by "isolation"— used in Burma before the invasion and outlined the principles proposed for using multiple-aspect signalling on rehabilitation. The old system was slow in operation and caused considerable delay at times. They now had a clear field in which to work and to apply the best present practice, as conditions demanded and resources permitted.

Mr. B. Wagenrieder thought there was more variation among crossing loop layouts than any others. They had, however, followed a fairly clear line of development, as requirements had changed, from the plain loop to the use of trap points, first at one, then at both ends of a line. At roadside stations they might not have the staff to deal with two passenger trains at once. Conditions were the governing factor and if those which obtained were met there was no real call to go further. It might be necessary to use track circuit, he thought, with some of the schemes they had heard described.

Mr. H. H. Dyer, Vice-President, considered the main questions to be operating and economic ones. It was for the traffic people to say what they wanted and the signal engineer could provide anything that was called for, but in every case they had to ask themselves whether the expense was justified.

Mr. F. H. D. Page strongly supported this view and emphasised that there was no technical difficulty in providing any particular arrangement, provided the cost could be met and it would give the required facilities.

Mr. E. G. Brentnall discussed the signal aspects proposed for Burma and Mr. F. Horler dealt with the overlaps shown on Mr. Strickland's plans and the use of four aspects.

Mr. H. M. Proud, Past President, illustrated some proposals designed to eliminate the difficulties met with in certain layouts, and Mr. J. H. Currey spoke of the addition of "isolation" to one of those given in the paper.

The President moved a vote of thanks to the author, and announced that on May 23 the Institution would hold its annual general meeting.

(*See editorial article, page* 412)

Questions in Parliament

Railway Agreement

Sir Frank Sanderson (Ealing—C.) on April 18 asked the Parliamentary Secretary, Ministry of War Transport, if he would state the profits earned by the railway companies to the year ended December 31, 1944, the amount which had been paid to the railway companies under the hire agreement; the profit which had accrued to the Treasury; and the total profit which had accrued to the Treasury for each of the financial years from the commencement of the control.

Mr. Noel-Baker in a written answer stated: Estimates for the year are contained in a White Paper issued last week, a copy of which I will send to Sir Frank Sanderson. The estimated excess of net revenue over the fixed annual sums payable to the controlled undertakings is £46,787,000 in 1944. The corresponding figure for 1941 was £21,656,000; in 1942, it was £45,657,000; in 1943 it was £62,099,000.

Railways Summer Services

Mr. E. H. Keeling (Twickenham—C.) on April 18 asked the Parliamentary Secretary, Ministry of War Transport, whether, to meet the needs of workers for a holiday change of air and to avoid the strain on the crowds at railway stations, he would authorise the railway companies at their discretion to duplicate trains during this summer.

Mr. Noel-Baker: The railways are working under great pressure and Mr. Keeling, I am sure, will agree that first of all they must deal with the traffic required for military operations, for the relief of the liberated peoples and for the maintenance of the life of the nation. The Minister of War Transport has given the railway companies considerable discretion to provide relief trains, provided they do not interfere with the working of essential traffic. It would, however, be wrong to encourage the public to expect any substantial increase in passenger facilities this summer.

Mr. Keeling: Is the Minister aware that his announcement will be received by the public not only with great satisfaction but also as testimony to the ability of the railway companies to deal with emergencies more efficiently than a Government department can ever hope to do?

Mr. A. Colegate (The Wrekin—C.): Will the Minister see that there is an adequate number of ticket-office clerks to issue tickets, so that there may not be long queues waiting at the stations?

Mr. Noel-Baker: No doubt Mr. Colegate is aware that railway companies have been working under great difficulties, because of the shortage of skilled labour.

Lt.-Colonel Sir A. Lambert Ward (Kingston-upon-Hull North West—C.): Does not the Minister think that the coal which is necessary to fire these trains could be used much better next winter in warming homes?

Capt. W. F. Strickland (Coventry—C.): Will the Minister try to do better during the coming holiday period than he did last year, when he had to send an official of his Ministry to the railway stations to cope with crowds which had become unmanageable, and the railway companies had to put on extra trains?

Mr. Noel-Baker: Speaking from memory I think that position was because of a misunderstanding of instructions. If we succeed in our policy of persuading people to stagger their holidays, the position will be much better this year.

Sir Herbert Williams (South Croydon—C.): Will the Minister ask the Forces to issue tickets instead of pieces of paper, which involve clerks at booking offices in a lot of unnecessary trouble?

Mr. Noel-Baker: Sir Herbert Williams is a little out of date. The troops travel on their warrants, and have done so for a long time.

Sir H. Williams: Is the Minister aware that I saw an instance of the sort only yesterday?

(*See editorial article, page* 413)

Railway Order No. 341

Mr. Ralph Etherton (Lancaster, Stretford—C.) on April 18 asked the Parliamentary Secretary, Ministry of War Transport, why the Railway Order (S.R. & O. No. 341 of 1945) which was signed on February 20, 1945, and came into operation on that date, was not published until March, 1945; and, because it related to

14 earlier Orders, why there was no explanatory memorandum.

Mr. Noel-Baker: This Order, made by the Railway Rates Tribunal, was a formal document which gave effect to a decision previously announced in open court.

Railways and Empty Containers

Mr. Edgar Granville (Eye—Ind.) on April 17 asked the Parliamentary Secretary, Ministry of War Transport, if he would reconsider the instructions issued to the railway companies by which they could not accept the return of empty casks, drums, jars, and so on, with the result that the breweries were unable, through lack of packages, to attain their output quota.

Mr. Noel-Baker in a written answer: No such instructions have been issued to the railway companies. The importance of ensuring that empties are returned to the senders is appreciated fully, and instructions are in force that the same priority should be given to the empty containers as to the commodities for which they are used. During periods of exceptional congestion, however, it is necessary for the railway companies to impose temporary restrictions on the acceptance of all but high-priority traffic, and, when this happens, other traffic, including empty containers, necessarily is delayed. Machinery exists between my department and the Ministry of Food for securing movement and in any particular case where output of beer is endangered representations should be made to the divisional food officer.

Restaurant and Buffet Cars

Mr. G. Muff (Kingston-upon-Hull East—Lab.) on April 17 asked the Parliamentary Secretary, Ministry of War Transport, when he hoped to reinstitute refreshment buffets on trains operating between Kings Cross and Hull.

Mr. Noel-Baker in a written answer stated: I regret that at present I am unable to say when it may be possible to restore restaurant and buffet cars on long-distance trains.

Severn Barrage Scheme

Mr. James Griffiths (Llanelly—Lab.) on March 27 asked the Minister of Fuel & Power if he would make a statement of the Government's intentions following upon consideration of the report on the Severn Barrage.

Mr. Tom Smith (Joint Parliamentary Secretary, Ministry of Fuel & Power): The report is primarily on the technical aspects of the scheme, but there are also many economic and other issues involved. In particular, the merits of the scheme depend largely, as the authors of the report make clear, on the view taken as to likelihood of a further substantial rise in the price of coal. Mr. Griffiths will realise that this aspect of the question needs very careful inquiry and an early decision on the barrage scheme therefore is not likely.

Scottish Air Line

Lt.-Colonel Sir Thomas Moore (Ayr Burghs—C.) on March 28 asked the Parliamentary Secretary, Ministry of Aircraft Production, as representing the Minister of Civil Aviation, whether the Government had now reconsidered the possibility of establishing an air line in Scotland to operate a domestic, trans-continental and trans-oceanic service.

Mr. A. T. Lennox-Boyd: As is clear from the White Paper Command 6605, which was debated in this House on March 20, it is not proposed at this stage to create a separate organisation specially for operating services in and from Scotland. On the other hand, the tentative schedule of routes now being worked out for Scotland provides for a comprehensive network of services connecting the main centres of population and the outlying areas such as the Western and Northern Isles.

Replying to a supplementary question by Sir T. Moore, Mr. Lennox-Boyd said he thought it was a thousand pities that so much concentration was placed on Prestwick, which was by no means the only matter of importance when considering Scottish aviation. When the schedule of routes came to be published it might well be found that Scotland was far better off than any other part of the United Kingdom.

Travelling for Troops on Leave

The Earl of Airlie in the House of Lords on April 18 asked His Majesty's Government what steps had been taken to ensure that sufficient travelling accommodation was being made available for the troops returning home on leave from the front, especially for those who were travelling to the north; and whether some of the sleeping accommodation of both classes would be reserved for officers and other ranks who had to journey to the north by night and who might wish to have the chance to avail themselves of those facilities.

Lord Croft (Joint Under Secretary of State for Air) in a written answer, stated: Personnel returning on leave from overseas are moved from the ports of arrival to London or other centres by special trains. In the case of leave for those from the B.L.A., special trains are run to Edinburgh, Glasgow, Manchester, Liverpool and London. For onward movement from London, special reservations are made on the principal trains starting from the various London termini. No arrangements are made for reservation of sleepers to the north, because passengers for Edinburgh and Glasgow travel in the special trains from the ports.

Statutory Rules & Orders

Sir Adam Maitland (Faversham—C.) on April 10 asked the Prime Minister how many orders or regulations having the force of law had been issued during the war and by which departments; and how many of such orders or regulations had been withdrawn or modified.

The Chancellor of the Exchequer (Sir John Anderson), who had been asked to reply, stated in a written answer: A list showing the number of Statutory Rules & Orders issued during the war by various departments is given below. I fear that it is not possible without undue labour to enumerate the Orders which consist of or embody repeals or modifications of earlier Orders within the period.

S.R. & O. ISSUED DURING THE WAR, UP TO, AND INCLUDING, MARCH 31, 1945

Department	1939 (a)	1940	1941	1942	1943	1944	1945 (b)	Total
The King's Most Excellent Majesty in Council	171	334	190	170	141	124	39	1,169
Admiralty	14	23	20	23	19	11	4	114
Agriculture & Fisheries	35	95	80	58	60	53	5	386
Air Ministry	8	11	8	3	5	2	—	37
Aircraft Production	—	3	6	3	1	1	1	15
Assistance Board	—	—	—	—	1	—	—	1
Chief Registrar for Friendly Societies	1	2	—	—	—	—	—	3
Customs and Excise	2	4	1	—	—	1	2	10
Economic Warfare	—	1	—	—	—	—	—	1
Education, Ministry of	—	5	6	12	3	48	20	94
Education Department, Scotland	—	—	—	—	1	1	—	2
Electricity Commissioners	—	3	6	7	10	10	4	40
Food	85	279	437	468	328	195	41	1,833
Foreign Office	—	—	4	7	4	2	—	17
Fuel & Power	—	—	1	290	101	76	16	484
Health, Ministry of, England	50	142	114	172	96	106	22	702
Health, Department of, Scotland	2	2	—	6	21	26	2	59
Health, Welsh Board of	2	1	—	—	5	3	—	11
Home Affairs, Ministry of (Northern Ireland)	—	—	1	—	—	—	—	1
Home Office (Secretary of State)	60	198	135	310	105	88	13	909
Home Security	15	53	28	27	17	8	1	149
Industrial Assurance Commissioners	—	1	—	—	—	—	—	1
Information	—	8	3	3	3	6	1	24
Inland Revenue Commissioners	2	3	6	5	6	3	1	26
Justiciary, High Court of, Scotland	1	2	1	—	—	—	—	4
Labour & National Service	19	47	43	48	32	26	5	220
Lancaster, Duchy of	—	1	1	2	—	1	—	5
Liverpool Court of Passage	—	1	—	—	—	—	—	1
Lord Chancellor	11	40	26	29	35	34	3	178
Lord Chief Justice, Northern Ireland	2	—	4	—	2	7	1	16
Master of the Rolls	—	1	1	4	3	2	—	11
National Health Insurance, Joint Committee	15	20	10	23	12	15	1	96
Pensions	3	2	4	2	2	9	1	24
Post Office	4	7	—	1	8	1	—	21
Privy Council, Northern Ireland	2	2	—	1	—	1	—	6
Railway Rates Tribunal	2	2	—	1	—	1	1	7
Reference Committee, England & Wales	2	—	—	—	—	—	—	2
Reference Committee, Scotland	—	2	—	1	—	—	—	3
Reference Committee, Northern Ireland	—	—	—	—	—	1	—	1
Registrar-General of Births, Deaths, etc. (England)	1	2	—	—	—	—	—	3
Registrar-General of Births, Deaths, etc. (Scotland)	—	2	—	—	—	—	—	2
Secretary of State, Burma	3	—	3	2	1	2	—	11
Secretary of State, India	12	22	18	20	29	17	1	119
Secretary of State, Scotland	8	26	24	54	46	69	7	234
Session, Court of, Scotland	7	7	7	3	3	4	—	31
Shipping	1	18	2	—	—	—	—	21
Supply	94	153	118	189	88	63	21	726
Town & Country Planning	—	—	—	—	—	20	2	22
Trade	149	241	431	571	303	220	68	1,983
Transport	100	262	297	341	226	155	58	1,439
Treasury	30	153	78	45	39	42	20	407
War Office (Secretary of State & Army Council	39	41	37	22	22	21	—	182
Works & Buildings	—	—	5	14	10	7	3	39
Total S.R. & O. registered	952	2,222	2,157	2,937	1,788	1,482	364	11,902

(a) Emergency Powers (Defence) from August 25, 1939; all other "orders" from September 3, 1939.
(b) Up to, and including, March 31, 1945

The Need for Inter-American Transport Facilities

This world war has taught the Americas that the transport systems of the Western Hemisphere need to be improved for military defence of the hemisphere and for maintenance of essential civilian services. Only by depriving the civilian economies in the Americas of their normal transport facilities has it been possible to effect the tremendous mobilisation of North and South American economic resources for war. To-day all the American republics are in need of more transport facilities. The economic loss to business and trade is serious. War demands on transport, and deterioration of equipment and facilities, have contributed to shortages of food and price inflation in many of the countries concerned.

The importance of transport to the American republics is obvious. The improvement of lines of transport has been studied by virtually every Inter-American meeting or conference since the First International Conference of American States at Washington in 1889. The need for improvement and protection of Inter-American transport also was emphasised by the first world war. Since that time the Americas have organised many conferences and commissions to promote land, water, and air transport.

A survey of the position has been prepared by Major-General Julian L. Schley, Assistant Co-ordinator of Inter-American Affairs (U.S.A.), in which he covers all branches of transport. The following notes summarise the particular reference to railways.

Because of the importance of co-operating with the other American republics in keeping transport systems operating as efficiently as possible, the Office of Inter-American Affairs in August, 1944, raised its Transportation Division to the status of a Department within the Office. This Department of Transportation is furnishing the services of technicians to advise other American Republics on maintenance and operational methods. This work is carried on in collaboration with the Department of State, War Shipping Administration, Civil Aeronautics Administration, Office of Defense Transportation, Foreign Economic Administration, Army, Navy, and other agencies.

The most extensive programme so far undertaken by the Department of Transportation of the Office of Inter-American Affairs in connection with transport has been sending a United States Railway Mission to Mexico. This mission is assisting in the rehabilitation of certain key lines of the National Railways of Mexico to help the railways carry increased loads of such strategic materials as lead, zinc, antimony, copper, and fibres. Under this programme, a large number of Mexican National Railways mechanics are being trained in the railway shops in the United States. The Office of Inter-American Affairs has also sent railway missions to Bolivia, Equador, and Colombia to counsel and advise on railway matters. Highway transport advice has been given also by United States technicians of the Office of Inter-American Affairs in Mexico, Central America, Peru, Colombia, Venezuela, and Paraguay. The Office's Department of Transportation has also provided consultative assistance to other American republics in the fields of air transport and ocean shipping, and has sponsored the training of civil-aviation personnel from the other Americas both in the United States and in their own countries.

Recently the Inter-American Defense Board (formed in March, 1942) made public a report by its committee on Inter-American transport (appointed on January 10, 1944) which not only reveals deficiencies in the transport systems of the twin continents but also makes valuable recommendations for their correction. The report takes up specific items for standardisation in the fields of land, water, and air transport. In the case of railways, the report declares there is great need for standardisation of track, rolling stock, and repair and service facilities. It points out that of the ten different gauges used on 88,000 miles of railways in Latin America, 20,511 miles (23½ per cent.) are of the United States standard gauge of 4 ft. 8½ in., and 34,095 miles (39 per cent.) are metre gauge. "It would, therefore, be of great value to unify the present diversified tracks in one or, at the most, two gauges," the report continues, "with the so-called standard gauge of 4 ft. 8½ in. (1·435 metres) as a primary gauge and the metre (3 ft. 3⅜ in.) gauge as a possible alternative. It should be noted that there are now 7,776 miles (9 per cent.) of 3-ft. gauge track in Latin America, and that the difference between this and the metre gauge is so small that there would be a minimum of problems in converting the track and adapting rolling stock."

Of locomotives and rolling stock, the report says: "Locomotives should be reduced to the minimum number of types and these should be standardised for the hemisphere. Both major sub-assemblies and individual parts should be standardised as much as possible in all types to permit of interchangeability. As regards railway cars, the carriages, brakes, couplings, and height of couplings, are some of the principal items for standardisation. Where complete standardisation is not possible, standardisation of parts can be used as a partial substitute and it is suggested that railway experts should set up the required and practicable limits of standardisation. Another very important item is clearance in railway passages and tunnels, overpasses, and under-passes. Minimum clearance should be provided to allow passage of all typs of equipment. Lastly, standardisation of railway signalling and switching equipment is also very important."

"In the matter of repair and service facilities, the idea would be that these be so standardised that a train moving from one end of the Continent to the other could be serviced quickly and efficiently at any point."

It is worthy of emphasis that the Inter-American Defense Board is composed of delegations of Army, Navy, and Air officers from 21 American republics. Their duties are to consider measures necessary for the defence of the continent, and the report quoted is concerned primarily with military needs. General Schley, however, commends the recommendations as "a valuable contribution to hemisphere thinking and planning in connection with transportation" and says that there is no question that they "are pertinent to post-war civilian needs." The American post-war plans to increase Inter-American trade are closely bound up with the problems of transport. Heretofore, British interests have played no unimportant part in providing for the railway transport needs of Latin America, and their close knowledge of local needs should not be ignored in any consideration of railway equipment standardisation which will affect not only the present military needs but also the permanent commercial requirements of a vast and rapidly developing continent.

Southern Railway Goodwill Dinner

To celebrate the winding up of the Southern Railway Nine Elms Goods Depot A.R.P. Group, a very happy gathering was held at Waterloo on Friday last. It was said to be the first time that a group of employees had entertained senior officers of the company; the atmosphere prevailing was one which again demonstrated the harmony and goodwill which exists between the staff and the officers.

The hosts, comprising members of the different grades at the depot, entertained the Traffic Manager, who was supported by various officers of his department, General Manager's Office, and the Labour & Establishment Department.

Mr. E. E. Young, London District Freight Superintendent, at the unanimous wish of the staff, took the chair. Among the toasts were the following:—"Nine Elms A.R.P.," proposed by Mr. Young, to which Mr. S. W. J. Smith responded; "Our Guests," proposed by Mr. Witham of the A.R.P. Group, to which Messrs. R. M. T. Richards and O. W. Cromwell responded.

Other guests included Messrs. S. W. Smart (Superintendent of Operation), W. J. England (Superintendent of Operation until retirement on March 31 last), F. Gilbert (Deputy Chief Officer for Labour & Establishment), C. H. Brazier (Staff Assistant to Traffic Manager), F. H. Marshall (Assistant London District Freight Superintendent), A. Wright (Nine Elms Goods Agent), F. H. Petherick (Bricklayer's Arms Goods Agent).

After dinner, a concert was provided, to which the employees' wives were invited, and received a souvenir of the occasion.

MADRAS RAILWAY ANNUITIES.—In accordance with the provisions of the Madras Railway Annuities Act, 1908, it is notified that a total sum of £6,580,890 was on April 5, 1945, invested for the purpose of providing a sinking fund in respect of Annuities Class "B."

ELECTRIFICATION OF SWISS LINE.—The Winterthur-Bülach-Eglisau-Koblenz-Stein-Säckingen line of the Swiss Federal Railways (about 45 miles) is being electrified, at a total cost, it is stated, of fr. 7,630,000. The first section (16 miles), from Stein-Säckingen to Koblenz, was opened to traffic on December 16, 1944.

IMPROVED NORTH WALES ROAD SERVICES.—In various ways the large provincial bus companies are finding it possible to improve their services from the low level to which they were brought by rigid austerity conditions. A good example of this is provided by the revised time-tables of the Crosville Motor Services Limited for North Wales. Beginning on April 1, an increased service was put into operation on the Llandudno-Bangor-Caernarvon route, and at the same time a through service was re-introduced, obviating the change of vehicle at Bangor. Also from April 1, the Bangor-Llangefni-Holyhead service was increased, and a through service re-introduced, obviating the change of vehicle at Llangefni.

XUM

Notes and News

Cost-of-Living Index. — The official cost-of-living index figure at April 1 last was 102 points above the level of July, 1914, the same as at March 1. In April, 1939, it was 53 points above July, 1914.

Associated Electrical Industries Limited, and British Thomson-Houston Co. Ltd.—The holders of practically all of the 1,500,000 £1 7 per cent. cumulative preference shares in the British Thomson-Houston Co. Ltd. have agreed to conversion into shares of Associated Electrical Industries Limited.

Design in Modern Transport.—A meeting will be held at the Royal Society of Arts, John Adam Street, Adelphi, London, W.C.2., on June 6, at 1.45 p.m. "Design in Modern Transport," by Mr. Christian Barman, F.R.I.B.A., N.R.D. Mr. T. E. Thomas, General Manager, London Passenger Transport Board, will preside.

L.P.T.B. Employees Help Merchant Navy.—The Merchant Navy Comforts Service recently received a donation of £86 from Mr. C. H. Blake, on behalf of the Stores Competition Committee of the L.P.T.B. (Railways), Acton Works. The sum was realised by a series of weekly competitive events held by the works employees. Over seven million gifts have been sent to sea by the M.N.C.S. since the beginning of the war.

Churchill Machine Tool Co. Ltd.—The net profit of the Churchill Machine Tool Co. Ltd. for the year ended December 31, 1944, was £65,909 (£57,649). The amount brought in was £34,920 (£40,403). The preference dividend was at 6 per cent. (same) and the final ordinary dividend was at 15 per cent., making 30 per cent. (same) for the year. The amount placed to war contingencies reserve was £20,000 (same) and £37,765 was carried forward.

Air Service to South Africa.—It has been announced officially in Cape Town that the trunk air line service between Great Britain and South Africa is planned for inauguration on July 1, with one service in each direction weekly. The aircraft will fly day and night, and will make the through journey in 45 hours. The service will be operated jointly by the British Overseas Airways Corporation, and by South African Airways. Each operator will work its own aircraft right through.

Ammunition in Wagon Explodes.—Mr. George Crowe, fireman, L.N.E.R., was killed, and two or three persons were injured, on April 18, when ammunition in a railway wagon exploded. A statement issued on that date at the North Eastern Area headquarters of the L.N.E.R., York, was as follows: "Shortly after 8 p.m., a wagon of ammunition on a freight train was noticed to be on fire between Selby and Gascoigne Wood. Later it exploded. L.N.E.R. Fireman Crowe, of Selby, who was on a light engine near the train, was killed. Some damage was done to the line, and all traffic for or *via* Gascoigne Wood was diverted by other routes. The line was reported clear at 9.30 p.m., but diversions continue *pro tem.*"

British Insulated Cables Limited, and Callender's Cable & Construction Co. Ltd.—A merger has been arranged provisionally between British Insulated Cables Limited and Callender's Cable & Construction Co. Ltd. The undertakings of both companies will be transferred to a new company in return for shares. The total issued capital of the new company will be £11,219,175 and holders of each £10 of Callender's ordinary stock will receive 27 ordinary £1 shares in the new company. British Insulated ordinary shareholders will receive 3 new ordinary shares for every £1 share held.

William Beardmore & Co. Ltd.—The net profit of William Beardmore & Co. Ltd. for 1944 was £177,345 (£189,668). The amount placed to war contingencies reserve was £100,000 (same). The final dividend on the ordinary stock was 7 per cent. making 10 per cent. (same) for the year.

Stewarts and Lloyds Limited.—It is announced that the annual report of Stewarts and Lloyds Limited will be issued on or about May 9. Dividends, which will be paid on or about May 25, are at the rate of 12½ per cent. (same) on the deferred stock and at the same rate relatively also on the liaison deferred shares.

Entre Rios Railways Co. Ltd.—The directors of the Entre Rios Railways Co. Ltd. have decided to pay on May 8, 1945, the interest for the six months ended November 30, 1933, on the 5 per cent. debentures, together with the 5 per cent. per annum interest thereon, amounting in total to £3 18s. 7d. per £100 debenture, less income tax.

French Railway Centenary Stamp.—To mark the one hundredth anniversary of the opening of the Paris-Orleans and Paris-Rouen railways, the Vichy French postal administration in 1943 issued a

special stamp illustrating in its lower left-hand corner an 1843 inaugural train. The upper portion of the stamp sketches a locomotive driver intently looking out of the side-window of what purports to be the cab of a modern locomotive travelling at high speed.

L.N.E.R. Extension of Time Application.—The London & North Eastern Railway Company is applying to the Minister of War Transport for an Order under the Special Enactments (Extension of Time) Act, 1940, extending by three years the time limited by Section 8 of the L.N.E.R. Act, 1937, as extended by the L.N.E.R. (Extension of Time) Order, 1942, for the exercise of the powers conferred for the completion of the railway in West Ham authorised by Section 4 of the 1937 Act.

Baldwins Limited. — The report of Baldwins Limited for the year ended December 31, 1944, gives the last balance sheet of the company as a manufacturing concern, consequent upon its merger with Richard Thomas & Co. Ltd. in January last. The next accounts will give the results of the two companies, now Baldwins (Holdings) Limited. The trading profit of Baldwins Limited for 1944, including subsidiary dividends and less provision for taxation and repairs, was £419,667 (£383,659). Depreciation was £175,000 (same) and directors fees £5,477 (£6,150), leaving a net profit of £239,190 (£202,509). The dividend on the ordinary capital was 10 per cent. (same) and preference dividend absorbed £51,179. The amount carried forward was £153,297 (£90,023).

Madras & Southern Mahratta Railway Co. Ltd.—Pursuant to Section 235 of the Companies' Act, 1929, a general meeting of members of the Madras & Southern Mahratta Railway Co. Ltd. will be held at

British and Irish Railway Stocks and Shares

Stocks	Highest 1944	Lowest 1944	Prices April 24, 1945	Rise/Fall
G.W.R.				
Cons. Ord.	62¾	55	57	– ¼
5% Con. Pref. ...	122½	114¾	123½	+ 1
5% Red. Pref. (1950)	110½	104	105	—
5% Rt. Charge ...	135½	128	136½	+ 1½
5% Cons. Guar. ...	134⅞	125	134½	– ¼
4% Deb.	118¾	112¾	117	—
4½% Deb.	118½	114	118½	—
4½% Deb.	124½	119¼	122¼	—
5% Deb.	137	129½	136½	– ¼
2½% Deb.	77	73¼	76½	—
L.M.S.R.				
Ord.	34⅜	27⅞	28	– ¼
4% Pref. (1923) ...	64½	55¾	58½	– ½
4% Pref.	81	72½	78½	—
5% Red. Pref. (1955)	105⅞	102	105½	+ 1
4% Guar.	107½	99½	103½	—
4% Deb.	111½	104	109½	—
5% Red. Deb. (1952)	111	108	108½xd	– 1
L.N.E.R.				
5% Pref. Ord. ...	10½	7 7/16	7½	– ¼
Def. Ord.	5 7/16	3¾	3¾	– ¼
4% First Pref. ...	68⅜	55½	57	– 1
4% Second Pref. ...	35⅜	28½	29½	– ½
5% Red. Pref. (1955)	102½	97¾	102	+ ½
4% First Guar. ...	105½	96⅜	102½	—
4% Second Guar. ...	95½	88½	96	—
3% Deb.	88½	80⅜	87½	+ ½
4% Deb.	110⅜	103½	108½	+ ½
5% Red. Deb (1947)	105⅜	101½	101½	—
4½% Sinking Fund Red. Deb.	107	104½	105½	—
SOUTHERN				
Pref. Ord.	80½	71⅞	76	– 1½
Def. Ord.	26⅜	23	23½	– ½
5% Pref.	122	113¼	123½	+ 1
5% Red. Pref. (1964)	117½	112½	115½	—
5% Guar. Pref. ...	134	125½	134½	+ 1
5% Red. Guar. Pref. (1957)	115⅜	112½	115½	—
4% Deb.	118	110	116	—
5% Deb.	135½	127	135	—
4% Red. Deb. (1962-67)	111½	107½	110½	—
4% Red. Deb. (1970-80)	112	108¾	112½	—
FORTH BRIDGE				
4% Deb.	107	103	105	– ½
4% Guar.	106½	102	105	– ½
L.P.T.B.				
4½% "A"	125	119	123½	—
5% "A"	133½	128	133½	+ 1
3% Guar. (1967-72)...	99½	98	99	—
5% "B"	124½	118⅜	124½	+ 1
"C"	72½	64½	65½	—
MERSEY				
Ord.	35⅜	33	36½	—
3% Perp. Pref. ...	72	66	70	—
4% Perp. Deb. ...	105	103	106	– 1
3% Perp. Deb. ...	85½	79½	84	—
IRELAND*				
BELFAST & C.D.				
Ord.	9	6	6½	—
G. NORTHERN				
Ord.	33⅜	19	26¾	+ ½
Pref.	49	37	43½	—
Guar....	70	57⅞	70	—
Deb.	90¼	81¼	91½	—
IRISH TRANSPORT				
Common	—	—	72½	—
3% Deb.	—	—	99⅜	– ½

* Latest available quotation

"Guildcroft," Epsom Road, Guildford, Surrey, to-day (Friday, April 27), at 11 a.m., to receive an account by the liquidators showing how the winding-up has proceeded during the year ended March 31, 1945. The first repayment of assets at the rate of 110 per cent. of the capital, absorbing £5,500,000, was made on April 15, 1944, and the liquidators are arranging to pay, towards the end of April, 1945, a further sum of 3 per cent., absorbing £150,000 of the balance still in their hands. An additional small distribution may be possible when the company's income tax liabilities in the United Kingdom and India are finally determined. It is hoped that the liquidation will be completed within the ensuing 12 months.

Beira Railway Co. Ltd.—For the month of February, 1945, the approximate gross receipts of the Beira Railway Co. Ltd. were £72,301, and for the five months ended February 28, 1945, were £386,578, as compared with £89,846 and £386,330 for the corresponding periods in the previous year. The number of miles open is 204.

Machinery, Plant & Appliances (Control) Orders.—The Machinery Licences Division of the Board of Trade has been merged with the Industries & Manufactures (Engineering) Department. In future all applications for licences to supply controlled goods under the Machinery, Plant & Appliances Orders, and all related correspondence, should be addressed to the Assistant Secretary, Industries & Manufactures (Engineering) Department. Board of Trade, Millbank, London, S.W.1.

Collision near Kirkby on L.M.S.R.—A collision occurred at about 9.20 a.m. on April 19, near Kirkby, L.M.S.R., when the 6.15 a.m. express Bradford to Liverpool, which runs fast from Wigan, ran into an engine and goods brake van at the Dale Lane No. 1 signal box. Five servants of the company, including both drivers and the fireman of the colliding locomotive lost their lives and some 30 persons were injured. The guard of the express, Mrs. G. Barnett, although suffering from shock, remained on duty until all her passengers had been accounted for. The light engine was thrown off the line and overturned on the embankment and the engine of the express came to rest on its side. Most of the passengers were able to continue their journey by road and traffic was temporarily diverted via Ormskirk.

Rhodesia Railways Limited.—The approximate gross receipts of the Rhodesia Railways Limited for the month of February, 1945, were £457,825, and for the five months ended February 28, 1945, £2,526,805, as compared with £513,027 and £2,695,414 respectively for the corresponding periods in the previous year. The number of miles open is 2,445.

Portuguese Railway Amalgamation Bill.—A Bill recently submitted by the Portuguese Minister of Transport to the Portuguese National Assembly envisages the amalgamation of all Portuguese railway companies. In addition, road traffic zones are proposed, each with a limited number of authorised road transport operators. The restriction in the number of these operators is contemplated because of the unfavourable financial results of the railway companies. In other words, the intention is to reduce road competition.

Consolidation and Development of Industry.—At the annual general meeting of the Federation of British Industries on April 11, Sir George Nelson, the retiring President, in the course of his remarks, said that the raising of world prosperity was dependent on greater capital investment in improving and making available in greater measure technical and industrial experience with the establishment of new activities in many countries which hitherto had not developed their economy as was necessary and possible. Industry would have to re-equip factories and to bring them all up to date. It was hoped that the recent Income Tax Bill was the forerunner of other measures of taxation relief which would help to place the country and industry on the soundest financial basis. As recorded in our Personal columns, Sir George Nelson, who has held the office for the last two years, has been succeeded as President of the F.B.I. by Sir Clive Baillieu.

The Institution of Locomotive Engineers.—We are informed by the Secretary, Major H. A. Harrison, M.I.Mech.E., that the Institution of Locomotive Engineers has now returned to 28, Victoria Street, London, S.W.1, and communications should be addressed accordingly.

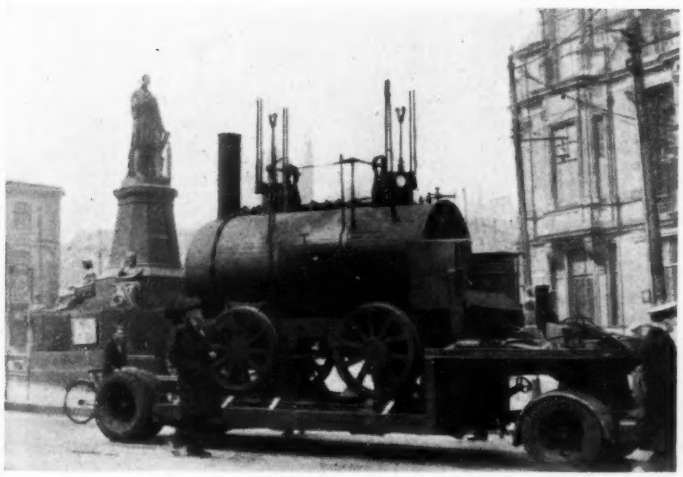
Proposed Trabzon-Erzerum Railway.—In connection with the well-known road motor service of the Turkish State Railways from Trabzon (on the Black Sea coast) to the Persian frontier, there is a scheme to build a railway to replace the first section of the motor route, between Trabzon and Erzerum, a distance of 160 miles. This was rejected by the Turkish Government some time ago, although the Minister of Public Works defended it in Parliament when his budget was discussed, stating that the Ministry of Communications was in favour of the scheme. At present, there is a short narrow-gauge railway (3 ft. 5¼ in.), some ten miles long, between Trabzon and Devizlik.

Forthcoming Meetings

April 27 (*Fri.*).—The Institution of Mechanical Engineers, Storey's Gate, St. James's Park, London, S.W.1. 5.30 p.m. "The Co-ordination of Existing Research Data," to be introduced by Mr. W. A. Tuplin, D.Sc., M.I.Mech.E.

May 1 (*Tue.*).—The Institution of Automobile Engineers, 12, Hobart Place, London, S.W.1. At the Institution of Mechanical Engineers, Storey's Gate, S.W.1. 5.30 p.m. "Light-Alloy Pistons," by Mr. E. B. Graham and Mr. C. H. Russel of Specialloid Limited.

George Stephenson Type Locomotive for Museum



The well-known George Stephenson type 0-4-0 locomotive, which has stood for many years on a pedestal in Newcastle Central Station, has been transferred to the Municipal Museum, Exhibition Park, Newcastle. This engine is stated by local tradition to have been designed by George Stephenson, and built about 1830 for Killingworth Colliery Railway. It was virtually rebuilt in 1867 and continued at work until 1880. It was presented to the Mayor and Corporation of Newcastle-upon-Tyne by Sir Charles Mark Palmer, Bart., M.P., on the occasion of the centenary of the birth of George Stephenson, June 9, 1881. For some years it stood at the end of the High-Level Bridge and was placed on a stone pedestal constructed for it on No. 9 platform, Central Station, in 1896. Alterations to the platform are now in prospect, and these have resulted in the transfer of this interesting relic to the Municipal Museum; it left the station on April 8. This locomotive is widely but erroneously known as "Puffing Billy." The above illustrations show the engine being moved by road and rail

Railway Stock Market

A feature of stock markets early this week was pre-Budget firmness, particularly in British Funds and leading industrial shares, the latter responding to the hope that the Chancellor would be able to make a statement on the future of E.P.T. There was considerably less speculative interest in European bonds, but French railway sterling bonds rallied on renewed hopes of an announcement before long on the prospects of resumption of interest payments.

Yield considerations drew rather more attention to home rail junior stocks, which after a further decline showed a partial rally; it was pointed out that dividends at around current rates can reasonably be expected during the next two years. Home rail prior charges maintained recent firmness; Great Western and Southern preference stocks were again higher. A minor feature was firmness in Indian public utility securities on the Indian Government statement as to its policy in respect to nationalisation: Barsi Light Railway stock showed firmness at 130.

Holders of Argentine railway securities by now will have grown accustomed to the apparent regularity with which any favourable development affecting the market in these stocks is followed by adverse factors, political and otherwise. After the shock of the National Transport Bill proposals, however, the market derived satisfaction from the news that Sir Montague Eddy is to make a further visit to the Republic. Sentiment as to Argentine rails also tended to be assisted by the further interest arrears payments announced on Argentine North Eastern "B" debentures and on Entre Rios 5 per cent. debentures. Central Uruguay stocks, particularly the debentures, developed activity and moved higher on the proposed increase in fares and the commission to study and report on steps to assist the company. Argentine railway stocks still carry considerable speculative risk, according to current views, but the position must become clarified in due course, and the Argentine and the railways presumably should benefit from the big post-war demand for South American produce. Mexican rail issues were again higher on acquisition possibilities. Mexican Railway 6 per cent. debentures moved up to 48.

With the rising tendency in industrial and other securities, the large yields on home railway stocks presumably should have added attractions, but demand, although showing some improvement, has been on a moderate scale. Sentiment is still influenced mainly by uncertainty as to the post-war position, although the fixed rental, expected to continue for at least another two years, will mean dividends at around current rates until the post-war position has been finally agreed. Moreover, assuming that there is success in securing full employment of the country's resources and labour power, the railways should at least be able in the future to pay dividends which would show satisfactory yields at around current prices, assuming, of course, that there is a reasonable solution of transport problems, particularly the question of higher charges to meet the rising costs of labour, materials, etc. Compared with a week ago, Great Western, despite a subsequent rally to 57¼, was fractionally lower; on the other hand, the 5 per cent. preference at 123½ gained a further point, and the guaranteed stock at 134½ was again higher, with the 4 per cent. debentures 117½.

L.M.S.R. was 28⅛, as against 28⅞ a week ago, with the senior preference maintained at 78¾, although the 1923 preference receded from 59 to 58¼. L.N.E.R. debenture and guaranteed stocks were well maintained; on the other hand, the second preference was 29, compared with 29⅜ a week ago, and the first preference 57, compared with 57½. Southern deferred declined on balance from 23⅞ to 23½ and the preferred from 77¼ to 76½; but the 5 per cent. preference gained a further point at 123½. London Transport "C" firmed up to 65¾.

In the Argentine section Buenos Ayres Great Southern hardened from 11¼ to 11½, the 5 per cent. preference from 26½ to 27, and the 4 per cent. debentures from 63 to 64½. Buenos Ayres Western ordinary was a trifle better at 10½, also Central Argentine at 8½. Central Uruguay ordinary moved up to 6½, the second debentures to 25¼, and the first debentures to 56. Elsewhere, San Paulo was maintained at 54½. Canadian Pacific Railway ordinary stock improved on balance from 15 to 15¾.

Traffic Table and Stock Prices of Overseas and Foreign Railways

	Railways	Miles open	Week ended	Traffic for week: Total this year	Traffic for week: Inc. or dec. compared with 1942/3	No. of Weeks	Aggregate traffics to date: Totals 1943/4	Aggregate traffics to date: Totals 1942/3	Aggregate traffics to date: Increase or decrease	Shares or Stock	Prices: Highest 1944	Prices: Lowest 1944	Prices: April 24, 1945	Prices: Yield % (See Note)
				£	£		£	£	£					
South & Central America	Antofagasta (Chili) & Bolivia	834	15.4.45	23,440	— 6,960	15	455,160	423,490	+ 31,670	Ord. Stk.	13½	9½	11	Nil
	Argentine North Eastern ...	753	14.4.45	24,813	+ 7,480	41	816,633	666,920	+ 149,713	,,	6½	4½	8	Nil
	Bolivar	174	Mar., 1945	5,430	— 576	12	16,068	15,953	+ 115	6 p.c. Deb.	18¾	7½	7½	Nil
	Brazil	—	—	—	—	—	—	—	—	Bonds	19 15/16	15	22½	Nil
	Buenos Ayres & Pacific ...	2,773	14.4.45	167,334	+ 23,067	41	5,966,934	4,907,734	+ 1,057,200	Ord. Stk.	7 15/16	3¾	6	Nil
	Buenos Ayres Great Southern	5,080	14.4.45	232,334	+ 56,067	41	9,209,200	8,336,667	+ 872,533	Ord. Stk.	14⅞	9¾	11½	Nil
	Buenos Ayres Western ...	1,924	14.4.45	77,734	+ 667	41	3,104,134	2,602,267	+ 501,867	,,	13¾	9½	10½	Nil
	Central Argentine	3,700	14.4.45	193,886	+ 6,870	41	7,935,613	6,985,263	+ 950,350	,,	10¼	6⅞	8½	Nil
	Do.	—	—	—	—	—	—	—	—	Dfd.	4½	3	4½	Nil
	Cent. Uruguay of M. Video	972	14.4.45	33,884	+ 5,632	41	1,397,640	1,410,133	— 12,493	Ord. Stk.	5½	4	6½	Nil
	Costa Rica	262	Mar., 1945	30,802	+ 6,701	38	203,304	199,765	+ 3,539	Stk.	17½	14½	16	Nil
	Dorada	70	Mar., 1945	24,100	— 1,489	12	82,705	73,281	+ 9,424	1 Mt. Deb.	101	101	98½	£6 1/10
	Entre Rios	808	14.4.45	31,306	+ 8,093	41	1,085,286	912,193	+ 173,093	Ord. Stk.	6½	4½	5½	Nil
	Great Western of Brazil ...	1,030	14.4.45	26,200	+ 5,300	15	407,000	354,000	+ 53,000	Ord. Sh.	38/-	23/3	30/-	Nil
	International of Cl. Amer. ...	794	Feb., 1945	$200,380	— $71,015	8	$385,547	$482,439	— $96,892	—	—	—	—	—
	Interoceanic of Mexico ...	—	—	—	—	—	—	—	—	1st Pref.	1⅜	¼	1	Nil
	La Guaira & Caracas... ...	22¾	Mar., 1945	5,393	— 2,311	12	15,910	21,956	— 6,046	5 p.c. Deb.	88	79	78½	£6 7 5
	Leopoldina	1,918	14.4.45	42,471	— 17,614	15	679,350	678,825	+ 525	Ord. Stk.	5⅞	4¼	4	Nil
	Mexican	483	14.4.45	ps. 557,100	+ ps. 4,700	15	ps. 8,954,100	ps. 6,230,500	+ ps. 2,723,600	Ord. Stk.	¾	⅜	1⅜	Nil
	Midland Uruguay	319	Feb., 1945	17,385	+ 330	34	137,623	137,202	+ 421	—	—	—	—	—
	Nitrate	382	15.4.45	8,188	+ 116	15	44,413	61,552	— 17,139	Ord. Sh.	75/10	65/10	71/3	£3 10 2
	Paraguay Central	274	20.4.45	$63,138	+ $4,158	42	$2,512,242	$2,173,199	+ $339,043	Pr. Li. Stk.	79½	68	77⅛	£7 14 9
	Peruvian Corporation ...	1,059	Mar., 1945	138,377	+ 21,175	39	1,170,479	964,686	+ 205,793	Pref.	9	10	9½	Nil
	Salvador	100	Feb., 1945	206,000	+ 18,000	34	c 957,000	c 984,000	— c 27,000	—	—	—	—	—
	San Paulo	153½	—	—	—	—	—	—	—	Ord. Stk.	57¾	46	54	£3 14 1
	Taltal	156	Mar., 1945	3,325	— 1,420	38	23,370	50,015	— 26,645	Ord. Sh.	21/3	13/9	12/6	Nil
	United of Havana	1,301	15.4.45	67,073	— 15,426	41	2,229,720	2,326,183	— 96,463	Ord. Stk.	4	2½	2½	Nil
	Uruguay Northern	73	Feb., 1945	1,843	+ 406	34	12,387	11,515	+ 872	—	—	—	—	—
Canada	Canadian Pacific	17,028	14.4.45	1,193,200	— 43,800	15	17,065,800	17,365,400	— 299,600	Ord. Stk.	17¾	13 13/16	15½	£6 17 -
India†	Barsi Light	202	Feb., 1945	20,220	— 4,467	44	243,080	237,600	+ 5,480	Ord. Stk.	129½	97½	128½	£3 10 1
Various	Egyptian Delta	607	20.3.45	18,334	— 2,065	50	685,023	603,664	+ 81,359	Prf. Sh.	7 13/16	5¼	7½	Nil
	Manila	—	—	—	—	—	—	—	—	B. Deb.	63½	58	61½	Nil
	Midland of W. Australia ...	277	Feb., 1945	15,394	— 6,189	35	155,340	245,502	— 90,162	Inc. Deb.	101½	99⅛	96½	£4 2 11
	Nigeria	1,900	27.1.44	395,318	— 30,784	13	—	—	—	—	—	—	—	—
	South Africa	13,301	7.3.45	1,035,049	+ 139,837	49	44,913,282	40,389,457	+ 4,323,795	—	—	—	—	—
	Victoria	4,774	Nov., 1944	1,307,642	— 35,856	—	—	—	—	—	—	—	—	—

Note. Yields are based on the approximate current price and are within a fraction of ⅛. Argentine traffics are given in sterling calculated @ 15 pesos to the £

† Receipts are calculated @ 1s. 6d. to the rupee